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LATINO ENVIRONMENTAL PERCEPTIONS AND USES OF OUTDOOR RECREATION AREAS: COMMUNITY AND NATURAL RESOURCES IN PENNSYLVANIA

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ABSTRACT

Although Latinos are the fastest growing population in the United States, environmental organizations and natural resource managers have relatively little information on their attitudes and behaviors toward the natural environment. The U.S. Latino population originates from over twenty nationalities, including the U.S., and represents a broad diversity of demographic backgrounds, cultural traits, and immigration experiences which have been understudied in the environmental concerns literature. As a result of this diversity, perspectives and concerns are likely to be highly variable among Latinos, making it even more critical to center attention on the needs and concerns of this population regarding the environment.

Focusing on eleven counties of eastern Pennsylvania, this study aimed to investigate how Latino groups use and perceive natural areas such as parks, forests, and neighborhood open space. For each analysis, I examined if and how Latino perceptions and uses varied by sociodemographic background, ethnicity, and community social interactions. Then I explored associations between outdoor recreation, environmental values, and environmental behaviors. Community field theory guided the research.

As a mixed methods study, successive data collection techniques built on previous methods. The four methods used were key informant interviews, a face-to-face household survey, facilitated discussion groups, and an intercept survey. This dissertation presents findings from the interviews and surveys. Although variables corresponded to a single conceptual model, several of the variables differed between analyses in order to gain a more complete understanding of relevant processes.

Results evidenced the ways uses of natural resources and environmental behaviors reflected diverse Latino cultural characteristics and the context of residents' daily experiences in the places where they lived. Among other factors, Latino uses of natural areas were influenced by social and physical barriers to community, rural-urban experiences, homeland narratives, and cultural identity. Participants generally showed a high level of appreciation for parks and natural areas. Passive forms of recreation such as picnicking, hang out, and playing sports dominated rural and urban park activities. Nature was considered a social experience, critical to maintaining cultural identity.

Overall, the three separate analyses indicated community, ethnicity, a sense of connectivity with nature, and recreation behaviors differentially explained Latino environmental behaviors. Interviews suggested virtually no involvement in community-wide environmental initiatives. Analysis of the household survey dataset revealed all concepts significantly influenced communication about environmental issues. Community, connectivity, and recreation behaviors predicted environmental behaviors outside the home while sociodemographics, community, ethnicity, and connectivity predicted behaviors in the home. In the intercept survey, environmental behaviors were predictable for Latinos of three nationalities and two communities. Recreation behaviors were not related to environmental behaviors. Inconsistencies among methods suggest the continued importance of exploring community effects and connectivity with nature in future research.

Results provide important information for an improved understanding of well-being in communities with large ethnic populations. This contribution to the understanding of the interrelation between the social context, race/ethnicity, and the natural environment represents a conceptual and methodological advance over prior work, which has tended toward single method techniques and limited theoretical perspectives. Implications will contribute to the effectiveness of public land management and pro-environmental initiatives by local Latino groups.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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CHAPTER 1

INTRODUCTION

Studies on the environment have proliferated since the first Earth Day in 1970. However, questions still exist about how racial and ethnic groups think about and behave towards natural resources and the environment. Linked to this fundamental problem is natural resource managers' need to recognize and consider different stakeholder interests in management and policy decision-making processes (Bromley 1991).

This study focuses on the Latino[1] population in Pennsylvania, the fastest growing segment of the Commonwealth's population. Community leaders and land managers from northeastern Pennsylvania requested this project to better understand Latino uses of and perspectives about natural resources. Understanding the ways diverse groups use and think about natural resources is imperative to the well-being of the Commonwealth's diverse population. Further, knowledge gained can make natural resource agencies more effective in achieving their goals of protecting and managing resources for the benefit of all Commonwealth residents. Ethnic groups' attitudes towards natural resources cannot be ignored when environmental quality continues to gain traction in social and political debate. After all, diverse groups will increasingly influence natural resource policy decisions, including pro-environmental actions, as well as management and allocation of funds for use in public lands. Uncovering common attitudes cross-culturally is a pressing issue because societies urgently need common ground for dialogue about how to deal with environmental risks. It is, therefore, critical to design and deliver programs which engage the growing Latino population in natural resources and environmental decision-making.

Despite the rapidly growing Latino population and general importance to quality of life, little is known about how Latino groups view areas such as public parks, forests, and their community landscapes. Research on Latinos and natural resources has revolved around several problematic areas of

[1] Race and ethnicity categories and labels vary over time and place in meaning and salience. I use the labels White, Latino, and Black in this research because they were most often used by interview subjects during initial conversations.

emphasis. First, research has been concentrated in the western United States. This is probably associated with large federal land areas as well as the historical prominence and large concentration of Mexican-Americans. In addition, research and management has tended towards aggregation of Latino populations. Aggregation of Latino sub-groups ignores numerous social, economic, and cultural differences. By focusing on Latinos, this study gains detail on variation encountered in Latino environmental perspectives. Research and management on Latino populations at the state or regional levels of analysis often overlooks the distinct local social contexts that influence individual attitudes and behaviors. Finally, studies on social inequality towards Latinos focus on employment, housing, education, or wages, while neglecting outdoor recreation and environment (Johnson and Floyd 2003). The latter, however, play critical roles in Latino social well-being through improvements in health, sense of community, and environmental awareness.

The research outlined here contributes to a number of literatures and disciplines. First, it describes Latino outdoor recreation, including activities, perceived benefits, constraints, and motivations. Second, it examines alternative uses of nature, such as occupying neighborhood space, which contrast with those traditionally documented in recreation and natural resource studies. Third, it explores the intersection between Latino ethnicities, uses of natural resources, and awareness and concern about environmental change within the context of daily life experiences. This study produces an understanding of the role of ethnic and community relationships with nature that are advanced or attenuated by local social networks. In doing this, the research explores the positive and negative aspects of using mixed methods research to study ethnic populations through analysis of key informant interview data, household surveys, facilitated discussion group data, and park intercept data. As a result, the research contributes to the literatures of rural sociologists, Latino/a studies, leisure studies, and urban planning.

My central research question concerns the effects of community interactions on Latino uses and perceptions of public natural areas and the environment. Crucial to this analysis is an understanding of how gender, class, ethnicity, and other dimensions of difference, influence the role of individuals within the local social context (Wilkinson 1991). In other words, how are environmental behaviors initiated and

sustained given the positioning of Latino residents in their communities and their uses of natural places? Community interactions (social, economic, and biophysical) enable Latino residents to transcend material and cultural spaces to enable the production of environmental attitudes and responses shared with the broader community (Luloff and Bridger 2003). Or, interactions can confine responses to specific interests, including particular ethnicities. Interactional field theory allows for the exploration of how relationships among residents and between people and landscapes lead to pro-environmental behaviors.

The following chapters address the posited research problem. Chapter Two reviews the literatures that form the basis for the study. The study draws from three areas of research: environmental attitudes and behavior studies, outdoor recreation literature, and community literature. Chapter Three develops a theoretical framework based on community interactional field theory. This model conceptualizes values and behaviors about natural resources as taking place within social interactional fields of place-based communities. Chapter Four outlines the use of four research methods: key informants, a face-to-face household survey, facilitated discussion groups, and an intercept survey. As a mixed methods study, successive data collection techniques built on previous methods. Chapter Five describes the study area. This dissertation presents findings from the interviews and surveys in Chapters Six and Seven, respectively. Although variables correspond to a single conceptual model, several of the variables differ between analyses in order to gain a more complete understanding of relevant processes. Based on the findings, Chapter Eight assesses the merit of the hypotheses and thesis statement. As well, theoretical and methodological considerations are considered with possibilities for future research. Finally, policy implications for natural resource managers and community decision-makers are outlined.

CHAPTER 2

LITERATURE REVIEW

In this chapter, literature is reviewed from multiple fields of study. In doing so, I look at how past studies have addressed or failed to address ethnic groups'— and more specifically Latinos'— relationships with nature. Relevant to this research are studies on (1) environmental values, attitudes, and behaviors; (2) outdoor recreation and environmental behaviors; (3) Latino outdoor activities, preferences, and constraints; and (4) community theory. Justification for focusing on the community level of analysis and dynamics of Latino populations situated in a natural resource context is supported from multiple perspectives. The literature review results in a synthesis of common meanings and concepts across research areas as well as identification of shortcomings in the extant literature.

Environmental Values, Attitudes and Behaviors

Environmental Values

Environmental values refer to the guiding principles which serve as the basis for organizing an individual's beliefs, attitudes, and behaviors regarding the natural environment (Ellis and Thompson 1997; Schultz et al. 2004). Several literature reviews have suggested environmental concern to be rooted in (1) self-interest; (2) concern about environmental consequences on one's self, family, community, and society; and (3) concern about the state of entire ecosystems (Deitz et al. 2005; Douglas and Wildavsky 1982; Freudenburg 1991; Hays 1987). The first two types of concern were built on foundations of anthropocentric values, while the third was nonanthropocentric. Below is a brief description of some of the most common perspectives to the study environmental values.

One of the most widely used value scales examining environmentalism is the moral norm-activation theory of altruism operationalized using the Schwartz Value Survey. Building on work first articulated by Heberlein (1972), the value types reflected dimensions of self-interest, altruism, openness to change, and traditionalism. Schwartz Value Surveys have found roughly the same value structure in approximately 70 different samples from widely different cultural groups (Schwartz and Bardi 2001; cf. Deitz et al. 2005). Many other researchers have modified the Schwartz Survey to smaller scales and more

or fewer dimensions ranging from pure-anthropocentrism to pure eco-centrism (McFarlane and Boxall 2000; Stern et al. 1995; Stern et al. 1998; Thompson and Barton 1994; Vaske and Donnelly 1999).

One of the most often-used value scales related to environmentalism is Inglehart's post-materialist scale (1977; 1990; 1997). The post-materialist scale was based on Maslow's writings. Using a 12 item scale, Inglehart examined changes in religious beliefs, work motivation, political conflict, and attitudes toward children, families, divorce, abortion, homosexuality, and environment. Inglehart (1990: 372-373) wrote the "rise of the ecology movement" was not simply due to worsening environmental conditions which, in any case, were surrounded by questions of uncertainty. Rather, young people were more likely to be concerned about the state of the environment than their predecessors because they had more "… time, economic capital, and knowledge to be sensitive to environmental problems." However, numerous studies have disputed the post-materialist scale. Criticisms included that it was tautological (Brechin 1999; Brechin and Kempton 1994), incorporated flawed measures (Stern 2004), and that it ignored the environmental activities of disadvantaged groups (Buttel and Flinn 1978; Guha 1989; Hecht and Cockburn 1990).

The biophilia hypothesis departs from psychometric designs of the previous models. Kellert and Wilson's (1993) biophilia hypothesis argued humans subconsciously seek connections with the rest of life and is the product of biological evolution. Kellert (1996) called such values humanistic. Moralistic values, or the assignment of value to natural entities, have also scored strongly among sampled populations. The third most highly rated set of values in Kellert's research was described as "negativistic." These values reflected feelings of fear, disgust, and dislike for elements of nature. Kellert (1996) noted that even negative emotions, however, reflected a type of engagement rather than disinterest toward nature.

Numerous other models (e.g., Stern et al. 1993) have modified the aforementioned measures to account for the unique properties of the particular research question. As a result of the diversity of theoretical and measurement approaches, it is difficult to make comparisons across studies (Deitz et al. 2005). Operationalization of key variables, in addition to the concept of environmentalism itself, has presented major challenges to empirical work. All this is complicated by the fact that values are only one

among a set of factors, including contextual variables, which may influence individual decisions about the environment

Attitudes

Values help give weight to preferences when making decisions (Ostrom 1984). By contrast, attitudes are more specific and concern positive or negative evaluations of something (Hitlin and Piliavin 2004). For example, one might value biodiversity and oppose rainforest logging. Based on a review, Freudenburg (1991: 169) noted that three general different approaches have been utilized to measure environmental attitudes: listing concerns, willingness to pay, and derivatives of value scales.

The first represents the earliest attempts at measuring attitudes. Studies operationalized environmental attitude by asking respondents their level of concern about environmental pollution. For example, a 1976 Harris poll found that 66% of respondents indicated air pollution as a "very serious problem." Sixty-seven percent said water pollution was a problem (Hays 1987). A major problem with such studies was the generality of environmental issues addressed (Mohai 1990). In contrast to asking about specific water problems, the abstract notion of water pollution may not have adequately captured respondents' opinions.

The second approach asked respondents to weigh tradeoffs, such as increased or decreased funding for environmental protection, or protection in lieu of economic growth. For instance, a 1978 study found that respondents were willing to pay higher taxes for improvements in environmental conditions (Hays 1987: 32). Samples of students in 1971 and 1981 by Thompson and Gasteiger (1985) indicated a preference for a materialistic lifestyle was associated with less willingness to sacrifice material comforts to protect the environment. Gigliotti (1992) analyzed whether students had changed their attitudes since the Thompson and Gasteiger studies, but found students in 1990 were more materialistic than the students of 1971 and 1981. As with all such studies, measurement problems arose in this trade-off approach because environmental goods did not easily reflect monetary values.

The third approach involves a general set of beliefs and attitudes towards the environment, the most well-known of which is the New Environmental (or Ecological) Paradigm (NEP) (Dunlap and Van

Liere 1978; Dunlap et al. 2000). NEP had roots in the Schwartz Value Scale and resembled the post-materialism scale in terms of claiming a shift in environmental attitudes. In developing NEP, Dunlap and Van Liere (1978) suggested the general population had realized that environmental problems were the result of societal values, attitudes, and beliefs that advocated growth and prosperity, irrespective of environmental costs. According to the authors, people started to rethink their values, attitudes, and beliefs, and lend support to the idea that humanity is part of nature and not above it, thereby rejecting the Human Exemptionlist Paradigm. NEP incorporates the role of humans, the notion of carrying capacity, and the ecological web of life as key components (Catton and Dunlap 1978; Dunlap and Van Liere 1978).

The results of Dunlap and Van Liere's (1978) study led to various studies (e.g., Albrecht et al. 1982; Arcury et al. 1986; Noe and Snow 1990; Parker and McDonough 1999; Pierce et al. 1987) testing the viability of the NEP scale among various population groups. A major criticism of NEP has been its multidimensionality (Scott and Willits 1994; Silverberg et al. 1995), despite the authors' contention that it singularly measured a change in environmental attitudes. Despite its faults, NEP paved the way for the development of various other scales such as the Environmental Consequences-EC (Weigel and Weigel 1978); Awareness of Consequences-AC (Stern et al. 1993), Forest values-FV (Steel et al. 1994); and The Roper-RC (Roper Organization 1990) scales. Of these five scales, NEP has been extremely popular among researchers and is the most widely used (Deitz et al. 2005).

Behaviors

In 1991, Dunlap and Scarce wrote that evidence of a common environmental consciousness seemed to be growing since the majority of the public think of themselves as environmentalists. Yet, it is environmentally responsible behavior that really matters. Environmentally significant behavior can be defined by "the extent to which it changes the availability of materials or energy from the environment or alters the structure and dynamics of ecosystems or the biosphere itself" (Stern 2000: 408). There are several types of environmentally significant behaviors, including: (1) committed environmental activism (McAdam et al. 1988); nonactivist support of environmental movements (Zald 1992); (3) the purchase, use, and disposal of personal and household products that have environmental impact (Black et al. 1985);

and (4) other behaviors such as developers employing or ignoring environmental criteria in their decisions or maintenance workers' actions to reduce or increase the pollution produced by manufacturing plants or commercial buildings (Stern 2000).

Influences on pro-environmental behavior can be roughly classified into four major types. First, values and attitudes include specific predispositions towards certain environmentally relevant behaviors which can influence all behaviors an individual considers to be environmentally important (Black et al. 1985; Katzev and Johnson 1987; Schwartz 1977). Second, personal capabilities include the knowledge and skills required for actions such as organizing an environmental group or knowledge of making energy-saving modifications. Capabilities also include availability of time, literacy, financial resources, social status and power, and sociodemographic variables (Guagnano et al. 1995; Stern et al. 1999; Tarrant and Cordell 1997). Third, Stern (2005) included habit or routine as a type of causal variable, reasoning that behavior change often requires breaking old habits and creating new ones. For example, Dahlstrand and Biel (1997) suggested environmental values and a sense of individual responsibility for the environment were more influential in earlier phases rather than in later phases for changing established habits. Finally, contextual variables are influences external to the individual. These include persuasion, community expectations, regulations and other institutional factors, monetary incentives and costs, public policy, technological constraints, and other factors of the social context (Guagnano et al. 1995). Contextual factors have different meanings to people with different attitudes, beliefs, and experiences. For example, the cost of hybrid vehicles may be an economic barrier to purchase for some people but not for others.

Researchers have often studied these behaviors as separate constructs. However, the Theory of Planned Behavior and The Value-Belief-Norm Theory have attempted to synthesize the linkages between the diversity of attitudes and behaviors. In contrast to altruistic approaches, The Theory of Planned Behavior (TPB) was an extension of the rational actor paradigm found in the Theory of Reasoned Action (Ajzen 1985; Fishbein and Ajzen 1975). Behavioral intention does not always lead to actual behavior because of circumstantial limitations. According to TPB, it is determined by attitudes toward the act,

perceived normative pressure, and perceived behavioral control. A critical aspect of TPB was its postulation that attitude toward the act (e.g., "My recycling wastepaper every time I have it for disposal is good") was more directly related to behavior than was general attitude toward the related issue (e.g., levels of general environmental concerns). Boldero (1995) and Taylor and Todd (1995) noted several studies that found attitude toward recycling to be a significant predictor of the behavioral intention.

Whereas the TPB emphasized attitude factors almost exclusively, the Value-Belief-Norm (VBN) model accounted for personal capabilities, context, and habits (Stern et al. 1999; Stern 2000). Emphasizing altruistic values, VBN suggested values influenced general beliefs about the environment, which influence beliefs about the consequences of environmental change and one's perceived ability and responsibility to take action. Thus, the link between values and behavior was primarily indirect, although the effect on decisions could be quite large. The most important factor across different types of behaviors modeled in the VBN was the belief that the individual and other social actors have an obligation to alleviate environmental problems (Stern et al. 1999).

In general, environment attitude-behavior empirical studies have found those respondents who indicated a favorable attitude or high levels of environmental concern were more likely to engage in environmentally responsible behaviors. However the causal connection has been weak or very modest on numerous occasions (Borden and Schettino 1979; Dunlap and Van Liere 1978; Gamba and Oskamp 1994; Gigliotti 1992; Guagnano et al. 1995; Hines et al. 1987; Maloney and Ward 1973; Oskamp et al. 1991; Ostman and Parker 1987; Scott and Willits 1994; Tarrant and Cordell 1997; Van Liere and Dunlap 1981; Vogel 1996). The reasons for weak or very modest relationships may be due to a variety of factors.

First, environmental concern is generally a very broad concept that may have various meanings to different individuals. Due to its overall generality, researchers have employed various approaches to identify individuals' level of concern. Second, the majority of pro-environmental actions reported in the literature related to self-reported behavior or intentions as opposed to actual behaviors. It is generally difficult for researchers to directly observe behaviors due to cost and time limitations (Deitz et al. 2005; Tarrant and Cordell 1997; Widegren 1998). This has led to a lack of concrete relationships among various

studies leading Scott and Willits (1994: 255) to conclude, "The inconsistency of these findings suggests that the observed low attitude-behavior linkage may be less a result of question wording or measurement error than a real disparity between words and deeds." Finally, appropriate contextual variables can be difficult to identify and measure. Sociodemographics and political orientation have received the most attention in empirical research. However, Tarrant and Green (1997: 19) stressed the importance of considering external variables in the attitude-behavior relation: "Contemporary researchers are no longer questioning if attitudes predict behaviors, but rather under what conditions attitudes possess predictive validity."

Evidence of Cultural and Demographic Differences

Demographic variables have been found to be only weakly related to attitudes, although the literature is highly inconsistent (Clayton and Myers 2009; Deitz et al. 2005). In general, younger and more highly educated respondents have tended to be more pro-environmental than older and less educated respondents (Bodur and Sarigollu 2005; Xiao and Dunlap 2007). Women have shown more concern for the environment, on average (McStay and Dunlap 1983; Milfont and Duckitt 2004; Zelezny et al. 2000), but the effect is small and not always found. In contrast to the post-materialist thesis, non-native born residents in the U.S. have exhibited higher levels of environmental concern than native-born (Hunter 2000). However, other studies have found immigrants were less likely to participate in environmental organizations (Pfeffer and Stycos 2002).

A number of writers have suggested ethnic groups differed in their attitudes toward the environment. In general, behaviors have been found to show small differences (e.g., Parker and McDonough 1999), but attitudinal differences were less clear. Members of environmental groups were more likely to be white and of higher socioeconomic status that the general population, but that may have reflected differences in the tendency to join advocacy/issue-oriented organizations rather than in the underlying attitudes toward the environment (Morrison and Dunlap 1986).

The literature that explains ethnic/racial differences in environmental issues is largely limited to comparisons of attitudes between Blacks and Whites, with White attitudes used as the baseline. Several

studies have applied a subculture perspective proposing that as a unique culture within the United States, Blacks were less interested in the environment than Whites (Hohm 1976; Kellert 1984; Kreger 1973; Milbrath 1984; Olsen et al. 1992; West 1993). Others have suggested that Blacks and Whites had similar environmental attitudes, but due to differences in participation styles, barriers to joining environmental groups, and feelings of disenfranchisement and powerlessness, Blacks were less likely to act on their environmental concerns (Gooley 1992). Other studies have argued historical oppression, current practices of discrimination, exclusion of issues of environmental racism from mainstream environmental groups, and culturally biased development of environmental agendas have led to barriers to participation in environmental behaviors (Adams 1992; Steinhart 1991). Finally, researchers have drawn on post-materialist or deprivation hypotheses to explain minority groups' apparent disinterest in the environment (Deitz et al. 2005), while environmental justice perspectives have explained environmental concerns (Mohai 1990; Taylor 2000).

In one of the few studies focusing on Latinos, Whittaker et al. (2005) found Latino concern for protecting the environment was significantly higher than for nonLatino Whites because Latinos tended to live in environmentally threatened places in California. Likewise, Williams and Florez (2002) found Mexican-Americans demonstrated significantly higher perceptions of water quality-related risks than nonLatinos in areas marked by high levels of social disorganization (also see Byrd et al. 2001). As a result of perceptions of racial prejudice in the locality, Mexican-American respondents were less likely than others to believe local officials would mitigate water-related hazards. The authors noted their findings corresponded with procedural injustices.

In an illustration of the deprivation approach, Morrison et al.'s (1972) study suggested Latinos living in polluted environments were accustomed to their environmentally poor situations and objections only arose from nonLatinos living in cleaner environments who became exposed to the pollution. Burger and Greenberg (2006) and Greenburg (2005) have found conflicting results as well. Focusing on racial/ethnic groups in New Jersey, Burger and Greenberg (2006) found Spanish-speakers more supportive of regulations to protect clean water, safety, and air than other groups. However, when the

authors separated these “ecological” issues from “environmental” issues such as loss of open space and wildlife habitat, Spanish-speakers were less concerned than nonSpanish-speakers. The authors concluded Latinos were more concerned about risks they perceived as directly affecting their well-being.

Some studies have departed from the post-materialist, deprivation, and environmental injustice approaches. For example, Carr and Williams (1993) focused on cultural assimilation measured in terms of linguistic use and preference. They reported a relationship between assimilation and views on “showing respect for the forest.” U.S. born Latinos interpreted “respect for the forest” to mean specific behaviors such as “not littering” and picking up trash, while respondents born in Mexico mentioned respect in more abstract terms and as an extension of respect for one’s home. The implication of these findings was that there was variation not only between ethnic groups, but also within an ethnic group; one potential source of this variation could be explained by the degree of cultural assimilation. Padilla (1980) suggested “environmental acculturation” helped immigrants learn the behavioral expectations of U.S. culture, including environmentalism. In general, findings supported the importance of studying cultural drivers of environmental attitudes regardless of proximity to hazard or social class.

In an analysis of national survey data, Johnson et al. (2004) found ethnic differences both in environmental behaviors (such as reading environmental literature, recreation, membership in environmental groups) and attitudes about wilderness (e.g., endorsement of the NEP). For Latinos, recognizable differences from Whites occurred for past use and for use by future generations. But with respect to the bequest values, results did not suggest U.S.-born Latinos saw wilderness much differently than Whites. The authors concluded that the context for environmental behaviors varied among ethnic groups: both the ease of performing a behavior and the meaning symbolized by that behavior were different for the different groups.

A seminal piece by Lynch (1993) used an historical approach to explore how Latinos viewed their natural landscape. After reviewing Latino literary narratives, she suggested White environmentalism was characterized by a reliance on technical solutions while Latino environmentalism relied on communal solutions. As well, Whites and Latinos differed in their views of the wilderness. Whites viewed

wilderness as “pristine” and Latinos described wilderness in terms of “humans-in-nature.” In other words, for Latinos’ from the Caribbean “true” wilderness and humans were not separate, but related in a mutual satisfaction of wants.

Similarly, Klindienst (2006) employed oral history to describe gardening as an alternative Latino environmental perspective. She noted differences in environmental discourses among Latinos with urban, suburban, and rural backgrounds. Despite these differences, interactions with the environment were often linked to heritage, familism (the importance of family over individual interests), and community which materialized through gardening. The works of Lynch (1993) and Klindienst (2006) reflect the various ways discourses about nature are explicitly and implicitly communicated. As a result, surveys on environmental attitudes and behaviors designed for a general population may omit culturally relevant concepts and measures.

Numerous other studies (e.g. Bengston; 1992; Carroll et al. 2003; Hansis 1998; Pena 1998; Pulido 1996) have used qualitative analysis to explore Latino attitudes about natural resources from a substance perspective. Such research is generally limited to the western United States and focuses on Mexican and Central American immigrants who work in occupations tied to resource extraction. As a result, the literature tends to focus on natural resources as satisfying lower-order needs rather than influencing well-being through, for example, recreation, health, and pro-environmental behaviors.

Outdoor Recreation and Environmental Attitudes/Behaviors

Increasing commitment towards the environment has been explained, due in part, to the growth in outdoor recreation (Dunlap and Heffernan 1975). One of the first studies that explored the relationship between outdoor recreation activities and environmental attitudes was conducted among a sample of ski tourers and snowmobilers in Washington State (Knopp and Tyger 1973). Environmental attitudes were operationalized using nine items that represented broad environmental issues such as, “pollution is a price we have to pay for economic progress.” Results indicated that ski tourers reflected a “significant and consistent difference,” in which they were “much more likely to conform to the environmentalist image” (11). However, the authors noted participants in both groups resonated with a pro-environmental theme.

Building on this study, Dunlap and Heffernan (1975) posited several hypotheses in a study of Washington state residents. First, there was a positive association between involvement in outdoor recreation and environmental concern. Second, the association was stronger between appreciative activities and environmental concern than between consumptive activities and environmental concern. Third, there was a stronger association between outdoor recreation and concern with protecting aspects of the environment necessary for pursuing such activities than between outdoor recreation and other environmental issues such as air and water pollution.

According to the authors, appreciative activities included hiking, sightseeing, and bird watching. Consumptive activities included hunting, fishing, and snowmobiling. Participation in the appreciative category was moderately associated with concern for environmental problems, while participation in consumptive activities was not. Further, involvement in outdoor recreation was more likely to be associated with a concern for protecting nature than with controlling pollution.

Subsequent research on the relationship between an individual's level of environmental concern and his or her participation in outdoor recreation has provided weak or inconsistent results (Teisl and O'Brian 2003; Theodori et al. 1998; Scott and Willits 1994). Geisler et al. (1977) added "abusive" as an additional recreation category. Their results conflicted with previous work – the effect of abusive activities was similar to the effect of appreciative activities and similar to or greater than the effect of consumptive activities. Van Leire and Noe (1981) incorporated NEP to weakly support Dunlap and Heffernan's first hypothesis, and moderately support the second. Jackson (1986) employed the NEP scale, EA Scale, and myriad items based in the environmental literature to support the hypotheses. Jewell (1978) indicated support for the second and mixed results for the third hypotheses. Pinhey and Grimes (1979) found no support for the first two hypotheses.

More recently, the association of outdoor recreation and environmental *behaviors* has been studied. Nord et al. (1998) and Theodori et al. (1998) suggested it is plausible that outdoor recreation results in or influences pro-environmental behaviors, irrespective of whether it leads to environmental attitudes. The authors of these studies proposed pro-environmental behaviors were a better measure than

environmental attitudes in assessing the association of participation in outdoor recreation activities and environmentalism.

Nord et al. (1998) sampled forest landowners and non-owners in Pennsylvania. Besides Dunlap and Heffernan's (1975) first two hypotheses, an additional hypothesis was incorporated in the analysis: "pro-environmental behavior is positively associated with appreciative forms of forest recreation, and this association is not substantially suppressed when sociodemographic characteristics are controlled" (238). Environmental concern was operationalized using a single item, while pro-environmental behavior included a series of items measuring past participation in various environmentally responsible behaviors, such as "stopped buying any product because of environmental problems." Outdoor recreation was operationalized as frequency of visitation to the forest, and types of activities while in the forest. Results indicated there was substantial association between forest recreation activity and pro-environmental behaviors, despite the weak relationship with environmental attitudes. When sociodemographic variables were controlled, only minimal changes occurred in the relationships. Nord et al. (1998: 236) indicated that "if outdoor recreation leads to increased environmentalism, then funding, promoting, and operating parks and outdoor recreation facilities and programs may be effective component of a strategy for protecting and improving the natural environment."

Likewise, Theodori et al. (1998) examined the association of participation in outdoor recreation and pro-environmental behaviors among four Pennsylvania communities. Outdoor recreation was operationalized by asking respondents to indicate participation in nine mentioned activities. Factor analysis categorized activities into appreciative to slight resource-utilization activities (hiking/backpacking, camping, skiing, mountain biking, picnicking, and bird watching), and moderate to intensive resource utilization activities (hunting, fishing and riding off-road vehicles). Pro-environmental behaviors included 7 dichotomous items (e.g., "contributed money or time to an environmental or wildlife conservation group"). Results indicated that when the associations of activity with pro-environmental behaviors were individually analyzed, significant positive relationships were documented. However, appreciative to slight resource-utilization activities had higher associations with pro-environmental

behaviors than moderate to intensive resource utilization activities (except fishing). Moreover, the association of fishing and pro-environmental behaviors was stronger than picnicking, mountain biking, and skiing. Overall, there was a positive relationship between participation in outdoor recreational activities and pro-environmental behaviors.

In another example, Tarrant and Green (1999) examined the effects of participation in outdoor recreation activity on environmental attitude-behavior correspondence with a sample of households in Southern Appalachia. Participation in an outdoor recreation activity was employed as a mediator in the causal relationship. Environmental attitudes were operationalized using five scales popular in the literature, namely, the NEP, EC, Roper Scale, AC, and modified version of the FV scale; however, each respondent answered only one of the scales. Environmentally responsible behaviors consisted of an 11-item scale. Correspondingly, outdoor recreation participation was operationalized by asking respondents to indicate their participation in outdoor recreation activities in the past 12 months using yes/no responses. A mediating effect was demonstrated only for appreciative outdoor recreation activities (day hiking, backpacking, nature/bird viewing).

In a more recent study, Teist and O'Brian (2003) used a nationally representative sample to examine the association between participation in forest-based recreation and: (a) the individual's level of membership or support of environmental groups; (b) the individual's level of interest in how forests are managed; (c) the individual's opinion as to what percentage of U.S. forests are managed in an "environmentally friendly" manner; and (d) the individual's likelihood to purchase an environmentally certified and labeled wood product. The results generally supported Dunlap and Heffernan's (1975) first hypothesis: participation in outdoor recreation can have a significant positive association with both the level of environmental concern and the level of environmental behavior. Also, the level of environmental concern and behavior depended on the type of recreational activity. As well, the relative effects of different recreation activities differed across measures of environmental concern and behavior. Thus, the second Dunlap and Heffernan (1975) hypothesis was only partially supported.

Latino Outdoor Activities, Constraints, and Negotiations

The studies described previously justify the need to look at outdoor recreation in order to understand how natural resource uses impact pro-environmental behavior. However, there is relatively little research on minority uses and perceptions of public lands (Floyd 1999). Existing studies have tended to draw conclusions from general population surveys and have examined ethnic/racial groups primarily through four theories: marginality, ethnicity, discrimination, and constraints theories.

The Marginality Hypothesis

The marginality hypothesis posits that minority groups have historically been forced to occupy a subordinate social class position. As a result, they have had limited access to society's major institutions, including those relevant to recreation (Washburn 1978). Socioeconomic marginality negatively influences life-chances and lifestyles in general, which is specifically reflected in certain forms of recreation and leisure experiences (Lindsay and Ogle 1972). Factors such as a lack of discretionary time and income, low employment and occupational status, and lack of access to desired facilities prevent minorities from engaging in outdoor recreational opportunities. Washburn's (1978) study was one of the first to recognize that different racial and ethnic groups may face different constraints when participating in outdoor recreation. The results showed that transportation and cost ranked as the highest constraints that Blacks faced when recreating.

Results from studies based on the marginality hypothesis have shown mixed results. Some studies (e.g., West 1989) found Blacks were less likely than Whites to travel long distances to visit natural areas. Others found marginality was a possible explanation for the leisure patterns of socioeconomically disadvantaged minorities. However, this work did not examine behavioral patterns of racial/ethnic groups at higher socioeconomic levels (e.g., Floyd et al. 1994; Cheek et al. 1976). Other studies found ethnic differences to be most significant among the middle class and within certain types of activities (Stamps and Stamps 1985; Washburn 1978; Washburn and Wall 1980).

Floyd et al. (1993) conducted a study in Arizona focused on Mexican-American respondents. The questionnaire targeted the effects of marginality factors, ethnicity factors, and perceived discrimination at

outdoor recreation areas. The overall results lent support for the marginality hypothesis, as respondents with higher levels of education showed a greater propensity for using outdoor recreation areas. Education was strongly related to overall participation. The authors noted participants had reservations about responding possibly due to racial issues.

West's (1989) comparison of empirical findings indicated race-based explanations were more salient in some parts of the country while socioeconomics was more important in other areas (also see Cheek et al. 1976). Other studies found similarities in natural resource use among middle class men (Floyd et al. 1994) and significant differences among wealthy and poor women of different race/ethnicities (Stamps and Stamps 1985). Hutchinson (1987) noted fewer visitations of public lands by Blacks and Latinos compared with Whites. For Blacks, this variation reflected lack of opportunities (e.g., transportation, time, and educational attainment). For Latinos, the difference was due to ethnicity. Regardless, socioeconomic studies have failed to account for class mobility and intergenerational differences.

As well, Hutchinson (1987) argued the marginality hypothesis failed to consider the role of contemporary discrimination on recreation participation. This failure reduces marginality to a class-based explanation by emphasizing socioeconomic constraints over attitudes about race (Floyd 1998). Floyd et al. (1993) and Floyd and Johnson (2002) noted discrimination in the outdoor recreation context needs further research.

The Ethnicity Hypothesis

To date, there has been no conclusive evidence to indicate whether marginality or ethnicity is the better explicator of minority recreation participation. When controlling for socioeconomic variables, variation between White and racial/ethnic groups reflected differences in values, norms, and socialization patterns of the groups – i.e., ethnicity (Antunes and Gaitz 1975; Stamps and Stamps 1985; Washburne 1978). Principal drawbacks of these studies have been their inability to clearly identify and measure specific cultural concepts, the use of race as an indicator of ethnicity, neglecting the racialization of

Latino peoples in many places, the neglect of intra-ethnic diversity, and a focus on White recreation patterns as the normative basis for comparing all other groups.

Gramann and Floyd (1991) found Latinos were less willing than Whites to drive long distances for recreation activities. Others suggested Latinos preferred higher levels of facility and service development than Whites (Gramann 1996; Irwin et al.1990; Bass et al.1993). Dwyer (1994) found Latinos were less likely than Whites to engage in activities such as skiing and boating. Floyd and Gramann (1993) suggested leisure activities of Latinos and other groups played a role in reinforcing an ethnic group's collective identity and solidarity in a multi-cultural society.

Carr and Williams (1993) hypothesized inter-ethnic differences in a survey conducted in two neighboring forests in southern California. Findings suggested that, although there was a significant difference in the behavior patterns between inter-ethnic groups of Anglo and Latino, the most significant differences were noted among intra-ethnic groups, especially those who identified with Mexican and Central American. Respondents from Central America were more homogenous regarding their recreation preferences, while the respondents of Mexican decent varied in their responses. The Carr and Williams study provided evidence that Latino groups were not homogenous concerning their outdoor recreation preferences, overall.

In addition to structural constraints, such as disposable income, time, and transportation, Latino uses of natural resources have been influenced by familism, male dominance, and segregation by gender and age (Carr and Chavez 1993; Irwin et al. 1990). As well, generational tenure (particularly assimilation) had an effect on activity participation patterns. Several researchers have shown Latino groups used recreation as a social space in which basic cultural values and ethnic/national identity were maintained and strengthened (Floyd and Gramann 1993; Irwin et al.1990). These studies found large discrepancies in Latinos' level of comfort in public natural areas, especially when they recreated in the presence of nonLatinos.

The Acculturation Hypothesis

Acculturation is a process that occurs when members of two societies come together and interact, resulting in a reduction of cultural and structural boundaries (Gordon 1964; Portes and Zhou 1993). Acculturation assumes greater integration among ethnic minorities results in natural resource use patterns similar to those of the majority population (Floyd 1998). Researchers generally agree that acculturation can be an incomplete process (Alba and Nee 1997). Ethnic groups may adapt some aspects of the majority group's culture while retaining core values and behaviors of their own culture (Portes and Zhou 1993).

In outdoor recreation research, Carr and Williams' (1993) seminal study found primary group acculturation affected meanings given to "respecting" the forest. Language proficiency was used to measure assimilation. First generation Latino immigrants were more likely to report that respect meant having a positive experience in the natural area. They chose places where they could picnic, relax, and swim with extended family and compatriots. However, Whites and Latinos with high levels of acculturation were more likely to report that respecting the forest meant acting in ways that would not result in damage to it (see also Baas et al.1993). Shaull and Gramann (1998) reported similar results: more assimilated Latino respondents reflected White perceptions of the nature-related benefits associated with recreation activities. Floyd and Gramann (1993) found acculturation (measured by dietary preferences) more reflected in activity patterns than site selection.

Other studies have found that acculturation may be facilitated by the geographic concentration of the ethnic group (Gramann et al. 1993). Acculturation is likely to have different effects in, for example, Texas than Vermont. Acculturation may also depend on the type of place (e.g., rural or urban) of the individual's national origin or current residence (Johnson et al. 1997). Finally, social stratification and economic advancement affect adaptation processes, including ethnic group identity and solidarity (Stoldoska 1998; Portes and Rumbaut 2001).

The Discrimination Hypothesis

While the impact of various forms of discrimination in nearly all forms of life has been well documented (see Bobo and Tuan 1996; Lee and Bean 2004), literature on discrimination in recreation

settings is almost non-existent (Floyd 1998; Stodolska and Livengood 2006). The discrimination hypothesis directs attention to contemporary discrimination rather than past patterns as does the marginality hypothesis. For example, Woodard (1988) observed Blacks were more constrained in their leisure by fear of discrimination and racial prejudice, leading them to choose indoor recreation experiences. Similarly, West (1993) cites incidences of aggression directed against Blacks by Whites in urban parks and how this may have deterred Blacks from visiting such places. He conceded these were isolated examples limited to a few individuals, but also cautioned such discrimination may be more pervasive. Floyd et al. (1993) found Latino use of parks in the Southwest decreased as perceived discrimination increased.

These recreation studies suggested the racialization of nature and natural places. An expectation of discriminatory treatment may induce members of minority groups to modify their behavior in recreation areas (Finch 2000). It is important to note Phillip's (1995) observation about implicit racism in leisure experiences. Phillip (1995) asked Blacks and Whites how welcome they thought Blacks would feel in a variety of leisure activities. While Blacks felt unwelcome in a number of pursuits, White respondents consistently reported they thought Blacks would feel welcome in these activities, failing to recognize the existence of racial tension. Moreover, both Whites and minority subjects indicated awareness of tacit rules determining where minorities "belonged" and where they were not accepted. Phillip (1990: 397) writes, "many, if not most, leisure activities have embedded racial 'information' associated with them in some way." He also suggests:

> Many middle-class [Whites] greatly discount the presence of racial discrimination or prejudice in leisure activities, and so probably also fail to understand their own racial biases in making some leisure choices (398).

Certain activities and natural places are given racial meanings by both majority groups and minority groups. As a result, Latino experiences and affective meanings for nature may be framed by an understanding of a world revolving around race.

Some studies have noted Latinos employed strategies to cope with feelings of discrimination in public natural areas. These included recreating in larger groups in order to deter potential attacks (Blahna and Black 1993), limiting leisure contacts to members of one's own ethnic group (Stodolska 1990), and becoming isolated in leisure settings (Johnson et al. 1997). Since many minority groups are economically disadvantaged, discrimination-induced economic costs (i.e., traveling to a destination where one feels welcome) may inhibit or significantly reduce participation in certain types of leisure activities.

Community

Although individual attitudes and behaviors represent an important element in understanding pro-environmental behavior, they do not constitute the entire story. In recent years, a limited number of environmental attitude studies have employed frameworks based on relations of trust, reciprocity with exchanges, common rules, norms, and sanctions, and social bonds and networks. Focusing on a social capital perspective, Pretty (2003) suggested these elements make it less likely individuals engage in selfish private actions resulting in negative impacts for the collective, such as resource degradation. Pretty and Ward (2001) documented several studies in which trust and reciprocity led to sustainable solutions in developing nations.

As noted by Vining and Ebreo (2002: 552), relatively few approaches to the study of pro-environmental behavior "have included systematic analysis of variables that are related to differences in the contexts, such as the neighborhoods and communities in which these individuals reside." More precisely, research has failed to account for the effects of community level social processes. Understanding human communities is crucial to understanding Latino uses and perceptions of natural resources because communities serve key functions for residents. Several approaches to community have dominated the literature: systems, social capital, ecological, and interactional. The following is a brief summary of each.

Systems Approach

Using systems theory, researchers conceptualize the community as a combination of social units and networks that perform organizational functions related to residents' lives. Functions include: (1)

maintaining economic activities and conditions; (2) transmission of culture, values, and norms; (3) ensuring adherence to norms; (4) opportunities for interaction; and (5) assisting residents with special needs (Warren 1978). The systems perspective suggests residents organize themselves based on interdependencies among their actors and with the outside world. The community contains social entities such as firms, agencies, and social groups to meet daily needs (Wilkinson 1986). As part of a broader system in the social world, the community is influenced by external linkages through cooperation, trade, and socialization (Warren 1978).

As social organizers, community sub-layers help to accept and reject members, assign social positions, and determine norms (Bates and Bacon 1972; Hiller 1941). Sub-layers, from smallest to largest, include individual roles, groups, and institutions (Poplin 1979). Such sub-layers of the community system also produce and distribute resources. Subunits do not exist in isolation. The patterned interactions of the systems' members and groups serve to create the connections between subunits, from families to religious groups to government (Hiller 1941; Loomis 1976). Leadership and volunteerism are essential elements of any local system. Governments provide emergency and social services, are the major conduits with extra-community entities, and are sources of leadership for collective initiatives. The roles of community participants (e.g., religious institutions and Rotary) in the broader community affect actions throughout the community (Grossman 1968).

Social Capital

Social capital theory is a derivation of the systems approach and views interactions taking place to the point that competitive patterns form (Coleman 1988). Based on rational choice models, social capital theory argues such interactions result in people making knowledgeable decisions for optimal benefit, given equal opportunities and access to resources (Flora 1998). Interactions foster social capital because people feel obligations to produce "generalized reciprocity" or civic engagement (Putnam 1993).

Edwards and Foley (1998) raised two key issues in the study of social capital. First, social capital is not equally available to all, in much the same way that other forms of capital are differentially available. Geographic and social isolation limit access to this resource. Second, not all social capital is

created equally. Deficiencies in social capital have been found to limit capacities for collective action and increase opportunities for lack of adherence to social norms, lack of communication, and deviant behavior (Portes 1998). Based on these notions, Putnam (2006) suggested low levels of social capital exist in neighborhoods dominated by immigrants and ethnic/racial groups.

Although the idea of social capital is almost a century old, Putnam (2000) popularized the concept suggesting the overall decline in social capital in America over the past fifty years would have significant implications for American society. Putnam (2000: 22-23) spoke of two main components of the concept:

> Bonding capital is good for under-girding specific reciprocity and mobilizing solidarity… Bridging networks, by contrast, are better for linkage to external assets and for information diffusion…. Moreover, bridging social capital can generate broader identities and reciprocity, whereas bonding social capital bolsters our narrower selves…. Bonding social capital constitutes a kind of sociological superglue, whereas bridging social capital provides a sociological WD-40.

The distinction between bridging and bonding social capital is useful in highlighting how social capital may not always be beneficial for society as a whole, though it may be an asset for those individuals and groups involved. Horizontal networks of individual citizens and groups that enhance community productivity and cohesion are said to be positive social capital assets. By contrast, self-serving exclusive gangs and hierarchical patronage systems, for example, that operate at cross purposes to societal interests can be thought of as negative social capital burdens on society.

Ecological Approach

The ecological approach views the community as an entity of collective resources and networks through which residents meet their daily needs (Poplin 1979). This approach emphasizes constant adaptation to internal and external stimuli in order to ensure basic needs are met. Such stimuli include technological, environmental, and political change (Poplin 1979). Human relationships to the landscape and the community as an arena of competition are implicit in community ecology.

The approach focuses on resources related to demographic characteristics, although social class structure, public and private institutions, and natural resource attributes of the landscape also play roles (Hawley 1950). The local ecology includes the quality, composition, and quantity of forests, minerals, energy, and water resources available to the community. These factors have had great impacts on community resource dependency, management, and autonomy through their control by forces external to the community (Nord 1994).

Community networks influence how a community distributes resources, including resident relationships. Population composition, size, and density are important to consider in community ecology as cultures and goals can clash between new residents and old residents, racial/ethnic groups, and elderly populations versus younger populations (Smith and Krannich 2000). Longer times of residence, higher social standing, and age lead to stronger bonding in the community (Buttel et al. 1979; Goudy 1977). Conversely, population size and density have been found to not necessarily weaken feelings of attachment (Fischer 1982; Kasarda and Janowitz 1974; Theodori and Luloff 2000).

The Interactional Field Approach

A final approach, interactional field theory, adds to ecology and systems approaches. The interactional community functions to meet daily needs of residents and provides a setting for social organization (Wilkinson 1991). Most importantly, interactional theory posits that community is a dynamic field of local interactions. Community exists in places, but the place itself is not the community. Essential to the interactional approach is the notion that collective identity and community agency distinguish a community from a group of people that simply share a common territory (Luloff and Bridger 2003). Social interactions enable residents to share common interests and pursue collective action from which community emerges (Luloff and Swanson 1995).

An interactional theory of community is a way to understand human communities based on symbolic processes of communication. Social interaction is a process of acting in relation to the acts of others (Charon 2004). The process builds shared meaning which is fundamental to individual and collective being. Interactional processes emerge within social fields of a bounded geographical place

where inhabitants come together to share common experiences and interests (Theodori 2005). In social fields, local actors continually readjust to new situations. The process enables communication about interpretations concerning changing economic, social, cultural, and environmental conditions. As Wilkinson (1991: 17) wrote:

> The unsuppressed flow of human interaction, regulated naturally by the requirements of interaction itself (e.g., by the necessity to give and receive symbolic messages and to take the perspective of the other in understanding self and others), is the elemental stuff of which community is made.

Unlike social capital which suggests communities can be deficient in the "right" kind of social interactions, interactional field theory suggests community always exists due to "persistent features of local life" (Luloff and Bridger 2003: 209). The interactional approach acknowledges the changes that have affected modern communities (Bridger et al. 2002). Yet, the theory argues humans within a given location naturally form relationships over shared meaning regardless of the potential to maximize the utility of such relationships. The community remains the primary mechanism "for contact between individual and society" (Bridger et al. 2002: 17). As such, community continues to be the main process by which people define themselves. Communities with increased capacities are more likely to acknowledge shared experiences of vulnerabilities and mobilize resources to increase resiliency (Flint and Luloff 2007).

Chapter Summary

This chapter has reviewed literature from multiple research areas. It established theoretical and empirical linkages relevant to environmental values, attitudes, and behaviors. Gaps between these areas of study were revealed in order to justify this study of Latino perceptions and uses of natural resources in Pennsylvania. In Chapter Three, an interactional field theory of community is used to construct a conceptual model of community effects on Latino perceptions and uses of natural resources.

CHAPTER 3

THEORETICAL FRAMEWORK

As I briefly discussed in Chapter Two, numerous theoretical frameworks have been developed to explain the relationship between environmental awareness, outdoor recreation, and pro-environmental behaviors. Despite hundreds of studies, no definitive and consensual conclusions have been reached. A few of the most influential and commonly used frameworks included early linear models of progression from environmental knowledge to environmental behavior; altruism; empathy and pro-social behavior models; sociological; and economic models. The factors that have been found to have positive and negative influence on pro-environmental behavior have included demographic factors, external factors such as institutional, economic social and cultural factors and internal factors such as motivation, environmental knowledge, awareness, values, attitudes, emotion, locus of control, responsibilities and priorities. What is still needed is research focusing on the diversity of ethnic groups – in this case Latinos – and research that looks more closely at contextual influences, such as community social interactions. To this end, this study aims to combine perspectives from: (1) the environmental values, attitudes, and behaviors literature; (2) the literature on outdoor recreation of ethnic groups; and (3) community field interactional theory.

Core Understandings of Nature

As described in the previous chapter, studies have shown environmental values as underlying more specific attitudes, preferences, and behaviors related to nature (Dietz et al. 2005; Schultz et al. 2004; Schwartz 1994; Ellis and Thompson 1997). Oelschlaeger (1994: 60) wrote "environmentalism necessarily involves a discourse on values." He emphasized the naivety of the idea that ecological systems themselves would supply human beings with the answers to complex issues of environmental policy. Values give rise to attitudes, which serve to summarize and integrate values and beliefs as they apply to a particular issue.

Fishbein and Ajzen's (1980: xi) influential theories of Reasoned Action and Planned Behavior maintain that people are essentially rational, in that they "make systematic use of information available to

them" and are not "controlled by unconscious motives or overpowering desires," neither is their behavior "capricious or thoughtless." Attitudes do not determine behavior directly; rather, they influence behavioral intentions which in turn shape individual actions. Intentions are not only influenced by attitudes but also by social ('normative') pressures. Thus, "the ultimate determinants of any behavior are the behavioral beliefs concerning its consequences and normative beliefs concerning the prescriptions of others" (Ajzen and Fishbein 1980: 239).

A great deal of research has examined perceptions of environmental threats. From a psychometric perspective, Leiserowitz (2005) described public risk perceptions as based on imagery, trust, values, worldview, personal experience, and emotion, in addition to scientific information. Risk perceptions are manipulable. For instance, the media can frame and define issues based on the coverage they give (Flynn et al. 1998). In general, psychometric studies have found individuals tended to respond more to things that were of low probability but high consequence (Slimak and Ietz 2006); had more fear of technological hazards compared to other environmental risks (Walsh-Daneshmandi and MacLachlan 2000); perceived greater risk when the consequences were severe (Slovic et al. 1980); and perceived greater risk when there was low controllability and unfamiliarity with the risk (Flynn et al. 1994). As well, minority groups have been found to perceive greater exposure to environmental hazard (Flynn et al. 1994). This occurred, in part, because such groups often experience greater exposure to hazards (Bullard 2000) in addition to having lower trust in government and authorities to protect them from these risks (Adeola 2000).

As explained by Dryzek (1997: 8), environmental discourses arise because of the social nature of environmental problems, that is, different interests, positions, and "shared ways of apprehending the world" develop as various social actors encounter each other. Discourses persist over time but are also dynamic, interactive, and vary in their dominance. Their dominance comes partly from institutions built around their premises which then persist as social patterns, often by garnering resources. For example, Douglas and Wildavsky's (1982) Cultural Theory of Risk suggests that *individualist* cultural orientations see nature as benign with little risk of humans damaging the environment in the long term (Thompson et al. 1990). By contrast, *egalitarianism* seems inevitably associated with environmentalism because

conserving common resources often involves protecting them for the greater good. Such discursive patterns suggest that, while the public may generally have positive attitudes towards the environment, individual behaviors and policy preferences could be due to value differences (Ellis and Thompson 1997). These differences may be further complicated by sociodemographic vulnerabilities and opportunities.

Dryzek (1997) discussed several prominent environmental discourses. Survivalist discourses stress scarcity and consequent conflict for control over dwindling resources – conflicts typically dominated by those with power. Promethean discourses are confident in the promise of economic and technological progress to shape nature. Other discourses stress the power of different human institutions to produce adaptive responses, although the dynamics and aims differ. The more "ecological" discourses may agree on the complexity of nature and the need for responsive institutions, but they diverge on the fundamental metaphors (Devall and Sessions 1985). Reflecting the complexities found in environmental discourses, Wilson (1992: 87) wrote "the culture of nature – the ways we think, teach, talk about, and construct the natural world – is as important a terrain for struggle as the land itself."

As this discussion suggests, explications about the ways people understand nature often overlook community. As noted in the preceding chapter, conceptualizations of community contribute to a more holistic approach to exploring the *processes* by which residents of a certain place interact with nature. To do so requires a review of how Latino cultural influences might affect meanings about nature.

Connectivity with Nature

Largely reflecting Leopold's (1949) Land Ethic, Kellert and Wilson's (1993) "biophilia," and Schwartz's (1994) human values scale, Dutcher et al. (2007: 478) proposed "that other things being equal, environmental concern and behaviors are a function of a sense of connectivity with nature." They went on to say that people who feel a fundamental sameness between themselves and nature will feel more empathetic and compassionate toward nature. Just as lack of connectivity with humans amounts to alienation from society, lack of connectivity with nature amounts to alienation from nature. Such alienation results in the perspective of human domination over the natural world. Connectivity is a manner of operationalizing environmental values and attitudes.

The notion of connectivity with nature stresses biophilia. Wilson (1994: 360) defined biophilia as the "inborn affinity human beings have for other forms of life, affiliation evoked, according to circumstances, by pleasure, or a sense of security, or awe, or even fascination blended with revulsion." In other words, a concern for the rest of life is a part of human nature. Biophilia has led to a conservation ethic that goes beyond the utilitarian "lifeboat ethics" that pro-environmental behaviors are necessary in order to ensure human survival. In a uniquely transdisciplinary perspective, Dutcher et al. (2007) further noted the idea of connectivity found in the arts, anthropology, philosophy and religion, psychology, and environmental and community sociology.

Universalism is another component of connectivity to nature. Drawing on Rogers's person-centered approach, Van Kalmthout (1995: 23) said universalism is "the actualizing tendency, which is operative in individual persons, to be a part of a universal force that is operative not only in human beings but in all organic life all over the cosmos." He further commented that "this feeling of being connected to the whole might well be the hard core of many philosophical and religious traditions" (23).

Drawing heavily on his evangelical Christian background, Rogers (1961) described universalism as empathy towards all forms of life and nonliving things. The essential component of empathy is the ability to take the perspective of the other (Shelton and Rogers 1981). For instance, in an examination of attitudes toward the whaling industry, Shelton and Rogers (1981) concluded participants empathized with the endangered animals and therefore strengthened their intentions to respond to environmental appeals. By contrast, disconnection is an overconcentration on the self.

Schwartz's (1977; 1992; 1994) work on human values also revolved around the idea of empathy. Schwartz (1994: 22) defined universalism as "understanding, appreciation, tolerance, and protection for the welfare of all people and nature." According to Schwartz, universalism falls into a higher-order category of value types called self-transcendence and was labeled a post-materialist value. His research found universalism to be diametrically opposed to power, interpreted as a value oriented toward self-enhancement and materialism. In contrast to Ellis and Thompson's (1997) notion of egalitarianism, which is conceptualized as a cultural bias, universalism is seen as a universal value.

As already noted, self-transcendence (or self-actualization) is a critical part of connectivity, empathy, and universalism. In *Escape from Freedom* (1941) and *The Art of Loving* (1956), Erich Fromm outlined his ideas about transcendence. Like Rogers, Fromm's worldview was anchored in his religious background. Fromm (1941) used the story of Adam and Eve as an allegorical explanation for human biological evolution and disaffection. After eating from the Tree of Knowledge, Adam and Eve became aware of being separate from nature while still being part of it. As a result, they were conscious of human mortality and the demands of lower-order needs, thereby alienating the interpersonal basis of one's self.

Transcendence is a process of freeing the self from the deficits of lower order needs to return to a state of consciousness and celebration of social relationships (Fromm 1956; Wilkinson 1979). Caring about one's self and others go together, and caring about all living things in nature is but a general case of the same thing. As first used by Fromm, biophilia described a state of being related to self-transcendence. Reflecting this, he wrote as part of his famous Humanist Credo:

> I believe that the man choosing progress can find a new unity though the development of all his human forces, which are produced in three orientations. These can be presented separately or together: biophilia, love for humanity and nature, and independence and freedom (Fromm 1965: 8).

The idea of connectivity as described by Fromm and others is found in several areas of community theory. Connectivity arises from the very concept of community. Connectivity to nature means experiencing nature as part of a community and not just as the raw material for society. Community is built from subjective human experiences and sentiments tied to a specific place (Wilkinson 1979). Connectivity puts people and nature into common unity (i.e., "comm-unity"). It is a logical step towards pro-environmental behaviors due to transcendence of the self and a focus on the well-being of one's neighbors (Wilkinson 1991).

Dutcher et al. (2007) noted that there exists no established measure of the concept of connectivity to nature. Schwartz (1992) included a nine-point scale measuring "unity with nature" in his theory of universal human values. Several authors (e.g., Borrie 1995; Davis et al. 2000; Robinson et al. 1991) have

included items of independent measures of affective relationships with nature. According to Dutcher et al. (2004), none of these fully measured the concept of connectivity.

In a mixed methods study, Dutcher et al. (2004; 2007) explored riparian-landowner opinions, knowledge, and willingness to participate in initiatives in central Pennsylvania for protecting and establishing riparian forests on private lands. Connectivity was measured using a five-point Likert scale with the items: (1) "I feel myself as part of a larger whole in which everything is connected by a common essence;" (2) "I feel a sense of oneness with nature;" (3) "The world is not merely around us but within us;" (4) "I never feel a strong bong with things in my natural surroundings, like trees, a stream, wildlife, or a view on the horizon." A three point Venn diagram measured self and nature as being (1) separate, (2) partly the same, or (3) mostly the same. Participants generally indicated a high level of connectivity to nature, although this did not translate to engagement in mitigation activities.

Cultural Influences

The social sciences have documented a substantial amount of information comparing White and Latino cultural groups with regard to differences in family structure (Mirande 1977), social values (Rubel 1968), and social participation (Antunes and Gaitz 1975). For instance, Alvirez and Bean (1976) described several characteristics of the Mexican-American family influencing: familism, male dominance (where the father and male children exercise authority over female members of the household), segregation by age groups (involving respect of elders and subordination of younger persons), and segregation of activities by sex (male children have freedom while female children are more protected).

Fewer studies have closely examined cultural distinctions found in Latino environmentalisms. As Cronon (1995: 70) noted, "the nonhuman world we encounter in wilderness is far from being merely our own invention." Nonetheless, nature is also a product of cultural responses to circumstances giving rise to shared meanings for the landscape. For example, Lynch (1993) described the garden and the sea as not only traditional sources of livelihood for many Caribbean peoples, but also as symbols of resistance to the physical manifestations of political and economic power. Lynch further noted that U.S. Latino environmental thought had several common elements that constituted the building blocks of the

discourse; these included: (1) an ideal landscape against which environmental degradation can be measured, (2) an understanding of the relationship of the landscape to nation and ethnicity, (3) explanations for environmental decline, and (4) the environmental significance of the pre-Columbian past and of the American Indians as its inheritors and transmitters. She concluded that environmental justice must address the effects of particular land uses or environmental policies on diverse groups as well as the likelihood that alternative environmental discourses will be heard and valued.

Ethnicity has been defined as membership in a cultural group on the basis of country of origin, language, cultural traditions, or based on socially constructed definitions of physical differences (Taylor 1992). Ethnicity is the result of a process and an indication of the way groups are organized in terms of interaction, values, attitudes, and life styles. It could change over time through assimilation and acculturation but race as a social construction often does not change even with acculturation (Hutchinson 1988). In turn, ethnic identity is defined as "one's sense of belonging to an ethnic group and the part of one's thinking, perceptions, feelings, and behavior that is due to ethnic group membership" (Rotheram and Phinney 1987: 13).

Leisure has been acknowledged as a means to perpetuate culture (Kelly 1982; Pieper 1963), and ethnic leisure has been associated with ethnic or cultural identity (Aguilar 1990). This is because the use of a second language, preparation of ethnic foods, listening to ethnic music, having ethnic friends, and reading ethnic literature coincides with evidencing an ethnic identity (Singh 1977). As well, Aguilar (1990) noted ethnic identity (for example, calling one's self Latina, Hispanic, Latin, Salvadoran, Zacatecoluquera, and/or American) is a matter of personal choice which is influenced by social context. Furthermore, not everyone chooses to identify with an ethnic group, though he or she may be ascribed an ethnic label. Thus, membership in an ethnic group is not only ascribed by others in the society but also by how the individual define himself or herself.

In the past, research tended to view ethnic groups as culturally homogeneous despite significant cultural, educational, and socioeconomic differences that exit within the ethnic group. However, simply because groups share some characteristics (e.g., language, religious beliefs, or country of origin) does not

indicate that the meaning of their nature experiences is the same. What can be considered a leisure opportunity by one cultural group may not be defined as leisure by another (Kelly 1987). Within group differences are also evident through micro-cultural distinctions such as social class, education, music, food, and residential location (Carr and Williams1993; Hutchinson 1988; Irwin et al. 1990). As a result, factors such as family, friends, neighborhood, life cycle indicators, length of time living in the community, and the accessibility to resources should be examined in addition to the effects of ethnicity, race, and social class to expand understandings of leisure participation (Taylor 1992).

In two of the earliest studies of ethnic park uses, Hutchinson and Fidel (1984) and Hutchinson (1987) found Blacks and Whites in Chicago area parks participated in activities oriented toward smaller groups. By contrast, Latinos participated in family and extended family groups. As well, Latinos made more use of neighborhood recreation facilities than other groups and followed cultural traditions such as sex and age segregation. Similarly, Irwin et al. (1990) found Anglo campers preferred quiet surroundings and privacy, whereas Mexican-Americans did not care if other people were around and tended to camp in larger groups. The authors suggested differences between the groups were related more to cultural than socioeconomic differences.

Assimilation is another important cultural influence. Assimilation is a sociocultural process describing intra-ethnic variations and their implications on socialization patterns and uses of nature among ethnic groups (Portes and Zhou 1993). In general, ethnic assimilation is “a process of boundary reduction that can occur when members of two or more societies or of smaller cultural groups meet” (Yinger 1981: 230). Structural assimilation refers “to the entry of a minority group into the social institutions of the majority, including economy, education, civic affairs, and government” (Floyd and Gramann 1993: 8).

A similar term is acculturation, which “comprehends those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups” (Redfield et al. 1936: 149). Despite definitions and evidence that acculturation entails two-way processes of change, research and theory have focused on

the adjustments and changes experienced by minorities in response to their contact with the dominant majority and frequently confused with cultural assimilation (Gordon 1964; Portes and Zhou 1993). Accordingly, minority groups desired to, and would inevitably fully integrate into mainstream population and lose ancestral cultural traits (Carr and Williams 1993; Gordon 1964).

More recent thinking has returned to the notion that assimilation and acculturation are nonlinear processes and occur by degrees. Ethnic groups adopt aspects of the majority culture while retaining aspects of their own (Brown and Bean 2006). Such "segmented assimilation" frequently leads to a hybridization of cultural traits. The degree of assimilation of a group is a meaningful factor to describe the effects of culture on leisure and the intra-ethnic variation on leisure behavior. Changes in an individual's level of acculturation and assimilation can have an effect on leisure constraints and activities, as well as the ethnicity of the friends an individual recreates with.

As described in the previous chapter, Carr and Williams (1993), Floyd and Gramann (1993), and Shaull and Gramann, (1998) measured the effects of assimilation on Latinos' recreation behaviors. The most significant findings for Carr and Williams's (1993) study were related to intra-ethnic differences, both between Mexican-Americans and Central Americans as well as within the Mexican-American group. Most of the Central American population was born in Central America, had less time in the United States, and therefore had lower acculturation levels. This group was more likely than Mexican-Americans to recreate in large groups of friends. Mexicans-Americans were more likely than the others to be at the site with their extended families. Reasons for visiting the site also varied among the groups. Physical landscape characteristics were most important to Central Americans. By contrast, evaluating the site as a good place for picnicking, relaxing, and swimming, was the most important reason given by Mexican-American respondents. These findings were similar to conclusions by Floyd and Gramann (1993) who found assimilation had effects on site visitation, while acculturation was reflected in activity participation patterns.

Recreation Constraints

There is an abundant literature covering a broad spectrum of issues relating constraints to recreation participation; thus, it forms a subfield of contemporary leisure research (Crawford et al. 1991; Jackson et al. 1993). Constraints may be more fixed for particular social groups, especially those on the margins of society, indicating the importance of sociodemographic factors on constraints. Indeed, studies indicate marginalized groups perceive greater barriers to recreation participation than those groups which constitute the core of mainstream American society, the latter being principally White, European-descended families with middle-class incomes and values. As a result of these studies and critiques by Samdahl and Jekubovich (1997) and Henderson (1997), Jackson (1997: 461) defined constraints as "factors that are assumed by researchers and perceived or experienced by individuals to limit the formation of leisure preferences and to inhibit or prohibit participation and enjoyment in leisure." Jackson indicated this definition was preferable because it recognized that constraints could lead to outcomes other than non-participation, and acknowledged the differences between perception and reality and between an individual's perspective and a researcher's perspective of constraints.

More recently, Jackson (2005: 7) stressed the importance of understanding structural constraints, proposing that:

> No constraint or type of constraint is experienced with equal intensity by everyone, although time-related and cost-related constraints rank among the most widely and intensely experienced inhibitors of the achievement of leisure goals and a balanced lifestyle.

As well, constraints vary greatly across any number of different subgroups of the population. For example, Searle and Jackson (1985) reported marginalized groups, including the poor, elderly, and single parents, were more likely than others to perceive recreation barriers. In many instances, such barriers have been related to discrimination and feelings of discomfort (Finch 2000; Floyd 1998; Gobster 1998; Henderson 2003; Hutchison 2003; Johnson et al. 2001; Phillip 1995; West 1989 and 1993).

Motivations

Motivation is the reason for a behavior or a strong internal stimulus around which behavior is organized (Manfredo 1984; Wilkie 1990). Despite the presence of many diverse motivation theories, none of them have been universally accepted (Manfredo 1984). Motivation theories can be divided into two types: content theories and process theories. Content motivation theories focus on internal factors that contribute to energizing as well as directing behavior. Maslow's Hierarchy of Needs and Alderfer's ERG (Existence, Relatedness, Growth) theories are examples of content theories which focus on the satisfaction of certain needs considered by their authors as inherently human. Process theories examine how thought processes influence behaviors (Knopf et al. 1973). One such theory commonly applied to leisure studies is goal-setting theory, which suggests an individual's participation in recreation activities is driven by a need to accomplish personal objectives (e.g., catching a record-setting fish or spending time with family).

Motivations for participating in outdoor recreation experiences have included gaining new experiences, having a hobby, seeking solitude, experiencing a thrill, visiting a new place, meeting new people, exercise, being with family, and experiencing nature (Sharp and Miller 2008). Motivation is shaped by intensity and direction and both factors determine the behavior chosen from all the possible options (Moisander 1998). As well, motives for behavior can be overt or hidden and conscious or unconscious. Primary motives are the larger motives that enable individuals to engage in a broad set of behaviors (e.g., striving to live an environmental lifestyle). Secondary motives influence one specific action (e.g., biking to work on a particular day).

Primary motives and secondary motives can be intertwined. For example, the primary motives (environmental values) in the following statement are overridden by the selective motives (personal comfort): "I will drive to work because I'd rather be comfortable than environmentally sound." As such, the primary motives, such as altruistic and social values, are often covered up by the more immediate, selective motives, which evolve around one's own needs (e.g., being comfortable, saving money and time). Similarly, Kollmuss and Agyeman (2002) distinguish between an "abstract willingness to act,"

based on values and knowledge and a "concrete willingness to act," based on habits. The latter tend to be more consistent than the former.

Contextual Influences

Contextual factors influencing environmental behaviors and uses of natural resources include variables concerning infrastructure, economy, and social ties at the household, neighborhood, community, and other levels of analysis. Haller and Hadler (2008) noted infrastructure was a critical aspect of people's interactions with natural resources. Respondents were less likely to use poorly run recycling programs and public transportation. The authors noted that because institutional barriers (e.g., lack of public transportation) can be overcome primarily through people's actions as citizens (indirect environmental actions), it is important to explore how environmental attitudes influence negotiation strategies to engage in environmental actions.

The economic factors that play into residents' natural resource decisions are complex and only poorly understood. Kurz et al. (2007) argues the economist's assumption that people act in an economically rational fashion is often not true. Yet, people can be influenced by economic incentives, such as lower household refuse fees, to behave pro-environmentally for the short-term. The opposite is also true. Very low gas prices gave auto manufacturers incentive to produce energy inefficient vehicles and prevented people from taking energy conservation measures. The manipulation of rewards and punishments as determinants of individual pro-environmental actions has been common in environmental policy. However, such approaches have been shown to be costly to long-term solutions due to the tendency for behaviors to revert back to preintervention levels when the particular incentives or punishments were removed (Vining and Ebreo 2002).

Economic factors are intertwined with social, infrastructural, and psychological factors. Costs to recreate and benefits of recycling influence individual and community actions. Transportation costs, for instance, may prevent some potential visitors from driving to parks located in rural areas. Trade-offs involving time and other recreation options also influence people's decisions. In a study of recycling, Ackerman (1997) found that the household refuse fees of some municipalities did nothing to reduce the

weight of disposed material and increased the recycling rates only slightly. In other places, a similar bag fee led to a chain reaction: people started unwrapping their groceries in the supermarket, which in turn, led the supermarkets to redesign and reduce their packaging to a minimum level. In these communities, the per capita reduction of garbage was significant.

Studies on pro-environmental behaviors have overwhelmingly tended to focus on individual actions predicted by economic or psychometric models. The few studies that have been driven by community theory have focused on social capital (e.g., Brehm and Eisenhauer 2008; Miller and Buys 2008). Pretty and Ward (2001) suggested social capital, embedded in participatory groups within rural communities, has been central to watershed and catchment management groups, joint and participatory forest management, and integrated pest management. The authors proposed that successful communities were driven by the idea an individual who helps his or her neighbor will receive reciprocal assistance. Bonding and bridging capital were needed to develop the trust necessary for such relationships. Therefore, communities that unsuccessfully attempted community conservation models were faulted for not possessing sufficient levels of social capital needed for the trust-reciprocity relationship.

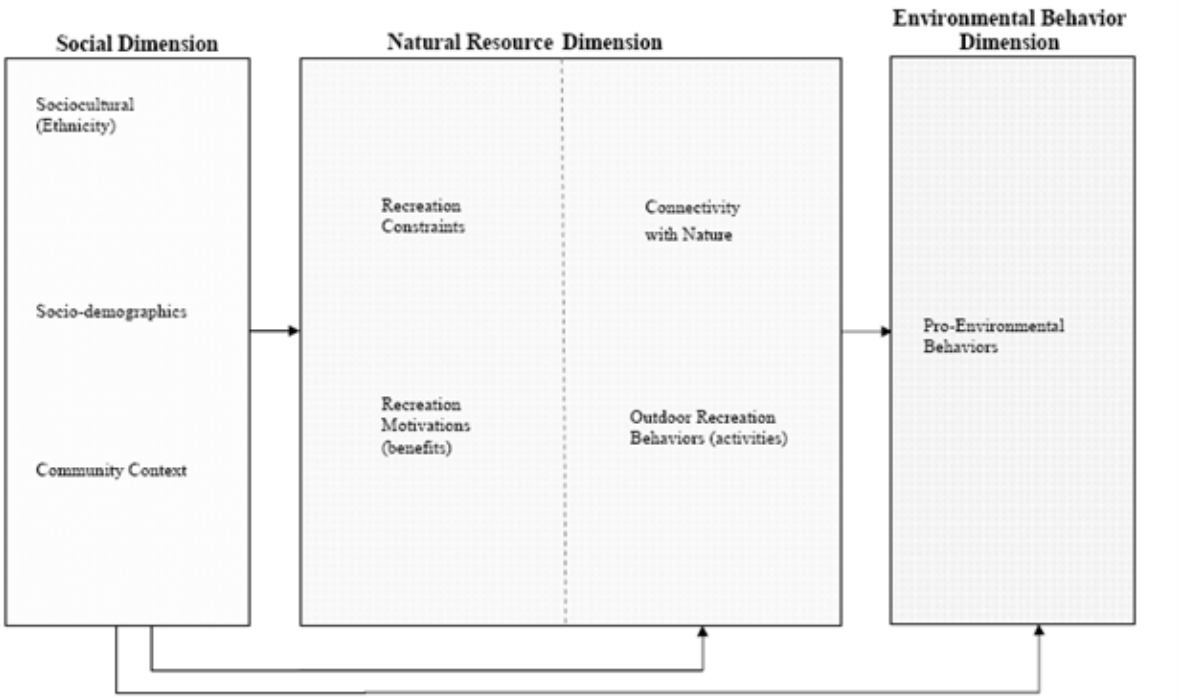
Because the authors' explanation of social capital tended to be vague, their research provided few concrete theoretical conclusions. Further, such studies have looked at resource extractive behaviors, especially related to agriculture, more often than those found in a recreational context. This suggests a need for research that addresses if and how pro-environmental behaviors are associated with recreation and how an alternative conceptualization of community affects such behaviors. As well, research should describe community as an emergent process occurring through unsuppressed interactions.

An Interactional Framework for Latino Uses and Perceptions of Natural Resources

Based on the previously discussed literatures, I propose a two-part conceptual framework that accommodates sociodemographics and community context as well as natural resource uses and perceptions to explore Latino interactions with nature (Figure 3.1). First, the "social dimension" explores general demographic influences on recreation constraints, motivations, and activities as well as direct effects on environmental behaviors. Latino social characteristics receive special attention as

representations of ethnic drivers. Community effects are explored because Latino residents do not live in a vacuum, but are connected to their neighbors and landscape though social interactions, services, and local norms. In the second part – the "natural resources dimension" – values and behaviors towards natural resources are examined for a relation with environmental behaviors. The final part of the model is labeled the "environmental behavior dimension" and contains the dependent variables (pro-environmental behaviors).

Figure 3.1. Conceptual Model



Underlying the entire model is an interactional field approach to community. In contrast to social capital's emphasis on the rational actor paradigm, interactional theory focuses on phenomena such as symbolic interaction, emotion, subjectivity, and self-transcendence in the process of community. Symbolic interaction contributes to an understanding of Latino residents' subjective realities by concentrating on how individuals interpret objects, events, and people in their lives and how this interpretation leads to behavior in specific situations. Sociologists such as Mead, Blumer, and Goffman described social interactions as acting in relation to the acts of others. Such a process builds shared meaning which is fundamental to individual and collective being. According to Samdahl (1988),

meanings are the interpretation of the social context, and they are the source of freedom and constraints that regulate individual actions.

A community interactional perspective insists that community satisfies structural criteria (e.g., satisfying material needs through public agencies and services) as well as interpersonal criteria, regardless of geographic area or population size. Thus, the capacity and willingness of Latinos to successfully interact and influence well-being at the community level can mean the difference between thinking of one's city as a community versus one's "barrio" as a community. The ways residents interpret their local society are developed through relationships in social fields. A social field is social interaction displaying unity over time around specific and shared interests (Wilkinson 1970). Community actors of unique backgrounds and experiences interpret social symbols differently in their social fields. These differences can result in competing interests, local realities, and perspectives on how to adapt to threats and change (Bridger 1996; Fitchen et al. 1987). However, competing interpretations (conflict) and shared interpretations (cooperation) constitute social actions and are necessary for community to emerge (Charon 1979; Wilkinson 1991).

The community field exists where the social fields of various interests ("interstitial groups") overlap and remain cohesive over time (Bates and Bacon 1972; Wilkinson 1970). As people who share a common territory interact with each other on a daily basis, knowledge about community issues – including environmental issues – are interpreted as concerns and communicated (Bridger 1996). Collective responses emerge when individuals transcend self and special interests to act as the community field (Luloff and Swanson 1995). As Luloff (1999) noted, community perceptions are greater than the sum of individual perceptions.

Social fields facilitate sense of community and attachments. According to MacMilan and Chavis (1986), sense of community includes four separate dimensions: membership (the sense of feeling part of a group); influence (the sense that the individual matters to the group and the group can influence its members); integration (the sense members' needs will be met by the resources received through their

membership in the group); and shared emotional connection (the sense of shared history and culture in the community).

Community attachment is an individual's sentimental or subjective relationship with the locality (Kasarda and Janowitz 1974). Residents can be very attached to their community at the same time they are dissatisfied with it. As a result, attachments are multifaceted and depend on social and physical characteristics of place. Attachment is important to consider as a part of community because residents who feel alienated from neighbors and from their government are less likely to share symbolic meanings at the community-level (McGuiness et al. 1977). It is important to note attachment is independent of urbanization (Kasarda and Janowitz 1974).

Sense of community and local attachments are formed through communication within and between strong ties and weak ties. Strong ties are intimate relationships between relatives, friends, and neighbors. Weak ties, by contrast, develop as people move between casual and superficial relations (Granovetter 1973). Weak ties have been found to be less developed in rural areas due to population dispersion; that is, the overall effect of distance is to decrease the probability for social contact. However, the same can be true for places where social interaction is prohibited due to deeply rooted social barriers, such as those associated with racial prejudice. A lack of weak ties, therefore, restricts community interactions by "restricting the development and maintenance of a complete and integrated society" (Wilkinson 1991: 79). The failure to develop weak ties constrains opportunities for upward mobility, reduction of inequality, and reinforces other barriers to well-being.

Other social conditions such as power imbalances and economic problems can interfere with interactional processes. As Wilkinson (1991: 72) noted, "anti-community processes are as natural as community process." Prejudices and inequalities result in anti-community processes in both spatial and social contexts. For example, Latinos may live in one section of town while nonLatinos live in another. Such barriers challenge the emergence of community and influence opportunities to interpret environmental issues and identify collective capacities to address environmental problems.

The same holds true for uses of natural resources. Latino uses of natural resources (both within and outside their geographic locality) are affected by events and experiences they encounter around the park as well as within the park. To understand Latino uses of the environment, it is critical to account for the manifestations of marginality, ethnicity, and discrimination that emerge from community relationships (Floyd 1998; Floyd and Johnson 1999; Phillip 1995; Washburn 1978). Interactional processes influence meanings, perceptions, and uses of the community's natural areas. In turn, natural resources can reinforce meanings of cultural identity in addition to magnifying differences between Latinos and nonLatinos. Spaces or activities known as Latino recreation places or activities can strengthen intra-ethnic attachments but weaken community level interactions.

As a value orientation, connectivity can be influenced by outdoor recreation behaviors, sociodemographic variables, ethnic identity, and community context (cf. Dutcher et al. 2004; 2007). In turn, connectivity influences environmental attitudes and behaviors. Outdoor recreation activities enable individuals to have direct experiences with natural resources which assist in developing emotional bonds with nature and caring about issues that affect it (Fromm 1965; Schwartz et al. 2004). In turn, participation in nature influences the environmental behavioral intentions of Latinos in their communities (Nord et al. 1998; Theodori et al. 1998). Norms and expectations (Ajzen and Fishbein 1980) at the community level influence behaviors, but empathy and universalism are also important. As well, it is likely residents have to negotiate contextual constraints in order to carry out pro-environmental behaviors (Stern et al. 1999).

As Lynch (1991) and others have pointed out, Latino residents have world views and landscape experiences resulting in attachments and empathy towards the natural environment that are different from nonLatinos. Reflecting the notion of the community field, connectivity encourages self-transcendence and appreciation of life in general rather than satisfying egoistic objectives. As such, an individual celebrates the social relationships in his or her community as well as the natural characteristics that link community to place. Processes of community facilitate the capacity of marginalized groups to rise above lower-order needs, especially when the environment is acknowledged as affecting such needs.

Finally, the model considers differences in Latino ethnic origin (e.g., Puerto Rican, Mexican, U.S., and others), length of time living in the community, ability to speak English and understand cultural styles found in the U.S. (e.g., food), and sociodemographics (age, gender, education, and income; Floyd 1999). As discussed in previous sections, these sociodemographic differences highlight the cultural distinctions and similarities between and among Latino ethnic groups (Lynch 1993). Further, these characteristics present motivations and constraints to participating in recreation activities (Carr and Williams 1993). Such characteristics also influence Latino relationships with other community members and their sense of community. Socioeconomic status, education, and legal status in particular influence Latino social positions in the locality and geographic residence (Pew Latino Center 2004).

Hypotheses

Based on my research questions and in combination with the literature on environmental values, attitudes, and behaviors; outdoor recreation; and community, I present four hypotheses for this study.

H_1: Environmental behaviors will vary by Latino ethnicity.

H_2: Latinos living in places with high levels of community-level social interactions will tend to engage in pro-environmental behaviors.

H_3: Latinos with high levels of outdoor recreation will show high levels of environmental behavior.

H_4: High levels of connectivity with nature will lead to high levels of environmental behavior.

These hypotheses test the interactional model's potential to explain Latino uses and perceptions of natural resources from a community level perspective. This counters most existing theories which focus on the individual, apply rational actor approaches, and/or view the value of nature as being only for human consumption. This conceptual framework also lends itself to mixed methods research in order to better explore and understand the complexities of the hypotheses.

Chapter Summary

The conceptual model incorporates theoretical elements from a number of fields to describe the ways Latinos use and think about natural resources. In contrast to much of the literature, interaction with

the natural environment is not seen as disconnected from particular Latino identities or community. From a field interactional perspective, both concepts frame social interactions within human populations and between Latinos and their landscape. Distinct community and cultural characteristics interact with environmental values to effect perceptions of nature. Further, outdoor recreation is an important factor that reinforces perceived benefits of the natural environment and empathy towards living things by bringing people closer to nature.

This model will be applied to three of the four research methods used in this study, including semi-structured interviews, a household survey, and a park intercept survey.[2] Methodologies and operationalization of the model are presented in Chapter Four. Both qualitative and quantitative methods are used to evaluate the model and explore variations across communities and ethnicities. As well, the model drives a comparison of research methods. Following this, I will describe the research areas and study communities. Results are presented in Chapters Six and Seven.

[2] Only three of the four methods are examined due to space constraints.

CHAPTER 4

METHODOLOGY

This chapter presents methodologies used to identify the factors that influence Latino perceptions and uses of natural areas. Included is a rationale for the mixed methods research design used, a description of the criteria used for site selection criteria, a discussion of the four complementary approaches to data collection and analysis, and operationalization of variables.

Rationale for Mixed Methods

To better understand those factors which determine Latino recreation use, I employed a number of mixed-methodological techniques, including two qualitative methods and two quantitative methods (Tashakkori and Teddlie 1998). Secondary data from the U.S. Census, the Pennsylvania Department of Conservation and Natural Resources Bureau of State Parks (DCNR BoP), local newspapers and histories were the source of sociodemographic, biophysical, and historical information about the communities and parks selected for study. The various types of data furthered a transdisciplinary approach to the research question problem.

Key informant interviews were then used to frame and develop a household survey, facilitated discussions, and intercept survey instruments. The objective of each technique was to inform the administration of subsequent techniques and act as validity tests for the theory, hypotheses, and results (Brewer and Hunter 1989). The four phases of the research are discussed in Chapter Four to underscore the mixed methods procedure. However, only the key informant data, household survey, and intercept survey are analyzed in this dissertation due to space constraints.

Site Selection

This study took place in a region consisting of eleven counties and nine major municipalities in eastern Pennsylvania. Counties included: Bucks, Berks, Carbon, Chester, Lehigh, Lackawanna, Luzerne, Monroe, Northampton, Pike, and Schuylkill. Major municipalities included: Allentown, Reading, East Stroudsburg, Stroudsburg, Easton, Bethlehem, Hazleton, Scranton, and Wilkes-Barre. Interviews were also conducted in Harrisburg (Dauphin County) to include regional perspectives from statewide Latino

organizations. Key informant data from Gordon (2007) revealed an increasing popularity of the study region for Latinos. According to key informants, Latinos were moving from New York City to take advantage of lower housing prices as well as to appreciate open space. Key informants from Pike and Monroe Counties explicitly suggested a study focusing on Latino migration to the Pocono region for environmental aesthetic and recreation objectives.

Selected communities met four criteria: (1) Large and/or growing Latino populations; (2) representation of multiple Latino groups; (3) representation of diverse natural area use opportunities; and (4) parks or other natural area frequented by Latino residents. In addition the study region was selected as an alternative to Philadelphia, and York, Lancaster, and Chester Counties which have been areas of frequent research on Latinos in Pennsylvania. These studies have tended to focus on topics such as economic development, crime, health, education, and migration. More in-depth descriptions of the research area are found in Chapter Five.

Secondary Data

A variety of secondary data sources were used to place Latino groups in the broader context of the study communities and Pennsylvania. Maps and data were used to understand the spatial distribution of public natural areas relative to Latino residences. Analysis of this data helped in the understanding of distance and accessibility as barriers to natural area usage.

Socioeconomic data, including demographics, housing, and economic information was obtained from the U.S. Census. This data provided context for understanding how migration shifts affect social interactions and Latino participation in the communities. Data from the U.S. Census was used to construct socioeconomic control variables for each community.

Local and regional newspapers (*The Citizen's Voice, Scranton Times, The Standard Speaker, The Morning Call, The Pocono Record, Panorama, El Hispano, El Torero, La Cronica, El Mensajero, La Voz Latina*) and local histories (Adams 2000; Anonymous 1931; Antonsen 1997; Encarnacion 2002; Montz 1949-1998) were used to track local experiences with the environment as well as particular experiences of each community's Latino populations. Secondary data provided a sense of salient community issues,

attitudes, and historical development. These materials provided the basis of descriptions of the social and biophysical content of the study community presented in Chapter Five.

Key Informant Interviews

Purpose, Design, and Structure

Following a review of extant secondary data, I arranged to speak with community leaders and other residents identified as knowledgeable about Latino perceptions and uses of natural resources; these people are known as key informants (Luloff 1999). Their formal or informal positions within the community and knowledge of community affairs enabled these individuals to provide information regarding Latino populations, the communities they lived in, and their interactions with natural resources (Krannich and Humphrey 1986). Key informants included individuals from diverse cultural and socioeconomic backgrounds, and included Latinos and nonLatinos. Analysis of key informant data informed subsequent research phases which provided opportunities to assess and compare local values, perceptions, and behaviors across larger community populations. An important benefit of key informant interviews is the ability to construct a survey instrument "that is contextualized and written in the language of the locals" (Fitchen 1990: 21).

Combined criterion and snowball sampling were used to identity key informants (Bradshaw and Stratford 2000). Initially, informants were identified by their leadership roles, involvement in natural resources management, and knowledge about the broader community and/or the local Latino population (Table 4.1). To ensure comparability across the study site area, initial informants included the following types of people in each targeted community: (1) a park manager; (2) local politician; (3) community volunteer; (4) county extension agent; (5) business owner; (6) Latino community center administrator; (7) religious leader; (8) a newly arrived immigrant; (9) local environmental organization representative; (10) a member of the local news media; (11) a long time resident; and (12) a new resident. In many cases, individuals represented more than one category.

From these broad categories, additional informants were identified using a snowball sampling technique whereby informants were asked to identify others they considered knowledgeable about the

community, local Latinos, or those who represented other important local interests (Krannich and Humphrey 1986; Tashakkori and Teddlie 1998). In this way, the community population was sampled purposively for heterogeneity (Singleton and Straits 2005). There are no prescribed rules for sample size in qualitative inquiry as information richness is considered to be most important (Creswell 1998). Key informants were interviewed until redundant information was collected and I was reasonably sure the data represented a variety of perspectives (Luloff 1999). At least eight informants were interviewed from each community. In total, 111 key informants were interviewed.

Table 4.1: Key Informant Distribution by Occupation Type (N=111)

Type	**Berks**	**Lackawanna**	**Lehigh**	**Luzerne**	**Monroe/Pike**	**Northampton**	**State**	**Total**
Business	3	1	2	2	1	2	0	**11**
Education	0	2	2	0	0	1	0	**5**
Religious	1	0	1	2	2	1	0	**7**
Media	3	1	1	1	1	1	0	**8**
Activist/Volunteer	2	2	1	6	5	3	0	**19**
Local NGO	1	2	2	3	0	2	0	**10**
Latino NGO	1	2	1	2	1	2	2	**11**
Environmentalist	2	1	1	0	1	0	0	**5**
County Extension	0	1	0	1	0	2	0	**4**
Local Gov.	1	3	3	0	1	1	0	**9**
State Gov.	0	0	0	0	0	0	1	**1**
Federal Gov.	0	0	0	1	0	0	0	**1**
Local Parks	1	2	1	1	1	1	0	**7**
State Forests	0	0	0	0	0	0	1	**1**
State Parks	2	1	2	2	2	2	0	**11**
National Parks	0	0	0	0	1	0	0	**1**
Total	**17**	**18**	**17**	**21**	**16**	**18**	**4**	**111**

As mentioned previously, interviews took place in the eleven counties, nine municipalities, and Harrisburg. Exploratory interviews were conducted in September, 2007. The remaining interviews were conducted from May through August, 2008. Requests for interviews were made by telephone, email, and/or in person. Interviews were conducted in locations convenient for the respondent. Informed consent was obtained from each informant (Appendix A). Interviews were conducted in English or Spanish, depending on the preference of the key informant.

Each interview used a common set of pre-established questions (Appendix A) designed to identify community issues and concerns, outdoor recreation issues and needs, and attitudes and behaviors about the natural environment relevant to their communities. Questions were formulated through

exploratory discussions with community leaders and synthesis of the literature (Weiss 1994). The interview schedule consisted of 17 open-ended questions focusing on: (1) perceptions of community change and concerns; (2) community and Latino action; (3) Latino outdoor recreation preferences; (4) Latino meanings of natural resources and human roles in the environment; (5) general descriptions of Latino residents in the area; and (6) opinions concerning assimilation and acculturation. Latino views about natural resource use were inferred from responses about outdoor recreation preferences, meanings for nature, and community descriptions.

Some of the most revealing questions probed for information about what the community viewed as special outdoor places, the benefits of these places (including activity preferences), obstacles to enjoying natural areas, and how they would react if their favorite area was no longer available for recreational use. Further, informants were asked to articulate any cultural meanings they believed Latino residents associated with parks, forests, and other natural resources. Finally, I asked participants to describe local social relationships and racial interactions within and outside parks and about their perspectives of government agencies.

Participant Characteristics

Most informants (61%) were born in the United States and 33% of Latino informants were born in the U.S. (Table 4.2). Reflecting the Commonwealth's Latino population, the majority (25%) of Latino leaders I spoke with were of Puerto Rican descent. Thirteen percent were from other Caribbean countries, 8% from South America, 4% from Central America, 8% from Mexico. Regarding race, 38% of informants were White reflecting demographics for local government officials, environmentalists, and resource managers. Forty-three percent identified as Hispanic or Latino, 3% identified as Black or African American, and 16% identified as mixed, none, or other.[3] Sixty-two percent were male and 83% had obtained an associates degree or higher. Ages were estimated during the interview. Twenty-six percent

[3] Other included nationality as racial identification. In other words, when asked to identify race, an informant would say Mexican or Puerto Rican.

were between 21 and 40 years old, 64% were between 41 and 60, and 10% were estimated to be over 60 years old.

Table 4.2: Key Informant Characteristics (N=111)

Indicator	% of Informants
Born USA	61
Ancestry	
NonLatino	38
Mexican	4
Puerto Rican	17
Other Caribbean	6
Central America	5
South America	7
Race	
White, nonLatino	38
Black	3
Latino/Hispanic	43
None, Mixed, Other	16
Gender	
Female	62
Male	38
Education level	
< HS	3
HS	10
Some college	4
Bachelors/Associates	61
Masters	14
PhD	8
Age	
21-40 years	26
41-60 years	64
60+ years	10

Analysis Procedures

With informant approval, interviews were tape-recorded to complement the interviewer's notes. After digitally importing the data into a usable format and making copies, I continued with three data analysis processes: coding, sorting, and integration (Weiss 1994). Coding proceeded as an "issue focused analysis" using open coding categories ("free nodes") as issues emerged (Creswell 1988: 140-165; Weiss 1994). An issue focused analysis is concerned about what can be learned from issues, events, or situations that the participants discuss (Weiss 1994: 154).

Weiss (1994) describes sorting as the organization of primary thematic categories and subcategories. Categories were added or dropped as the analysis continued. Recurrent themes and themes that were significant to participants had priority to be designated categories. Sorting included integration

of my thoughts and perspectives. While coding and sorting, integration proceeded as I recorded emerging ideas as annotations and linked themes using qualitative memo techniques and computer software (Emerson et al. 1995). Along with field notes, all data were imported into *NVIVO 8* (QSR International 2008) software. A working data collection matrix in *NVIVO 8* helped to locate and sort information and themes (Weiss 1994). I regularly backed-up all data banks. Findings are reported on the major themes identified (Chapter Six).

Household Survey

Purpose, Design, and Structure

A household survey was conducted following the qualitative analysis of key informant data. The purpose of the survey was three-fold: (1) to collect individual measures related to the conceptual design; (2) to validate key informant data across a broader sample of the Latino population; and (3) to explore additional insights raised during the key informant interviews. In this phase of the research design, quantitative information was collected on community residents' perceptions, attitudes, experiences, and behaviors towards natural resources.

The survey was initially designed to be administered verbally. However, establishing contact with participants and gaining their participation was extremely difficult and inefficient, despite hiring Latino survey administrators. As a hard-to-reach population (McAvoy et al. 2000), Latino individuals often worked multiple jobs and had little time or interest in participation, felt threatened by state-supported research, or were unaccustomed and therefore uncomfortable with being asked to participate in a research study. This resulted in conversion to a drop-off, pick-up method of data collection (Steele et al. 2001; Willar 1967).

Findings from an analysis of the key informant interviews were used to guide the development of the household survey. Doing this allowed me to avoid questions which excluded important information, were culturally irrelevant, or were incorrectly worded. The survey was ten pages long (the Spanish version was 11 pages) and had 28 questions (Appendix C) measuring variations in distinct objective indicators of: (1) social and economic well-being, including relationships with government agencies and

racial/ethnic interactions; (2) community involvement; (3) barriers to use of, activities in, and preferences about public land management and attributes; (4) environmental attitudes and behaviors; and (5) environmental concerns. In addition, the survey gathered information on core sociodemographics including country of birth, ethnic identity, and assimilation. The instrument contained both closed- and open-ended questions.

Surveys were conducted in the major Latino centers of the study area including Allentown, Reading, Scranton, Hazleton, Bethlehem, East Stroudsburg and Stroudsburg, Wilkes-Barre, and Easton from September, 2008 to February, 2009. A purposive sampling technique (Singleton and Straits 2005) was used to conduct both Spanish and English versions of the survey. Purposive sampling ensured gathering relevant dimensions of a population. Following identification of densely populated Latino areas using U.S. Census data, a team of three bilingual Latino survey administrators contacted potential participants. Then, following the initial identification of a Latino household and completion of an instrument, participants' were asked to provide the survey administrators the locations and names of additional Latino households on their street. Each participant signed an informed consent form (Appendix C).

After reading and understanding the consent form, participants completed a self-administered survey when they were unable to be interviewed. They were given one week to complete the instrument. At that time, the administrators returned to pick up the completed survey. If the selected participant had not completed the survey, the administrator returned one more time the following week. If the survey was uncompleted after two attempts to retrieve it, the selected participant was considered unavailable or unwilling to complete the survey. Although 400 surveys were budgeted for the project, a total of 459 surveys were conducted. The proportional distribution of these surveys across the study area reflected rough approximations of the number of Latino households in each county relative to the statewide Latino population (Table 4.3).

Participant Characteristics

Although data exist for 459 individuals, not all participants responded to every question. As such, participant characteristics are described with each item's corresponding total number of responses (Table 4.3). The sample had a median age of 33 years and slightly more males (52%) than females (49%) responded to the survey. The largest percentage of respondents sampled had completed high school or its equivalency (53%). Those with little or no education made up 25% of the sample, while respondents with college or professional degrees accounted for 22%.

Over 22% of respondents were born on the U.S. mainland. Of the foreign born and those born outside the mainland, 42% came from Caribbean countries, mainly Puerto Rico and the Dominican Republic. Over 17% of respondents came from South America, followed by Mexico (12%), and Central America (6%).

The majority (65%) had household incomes between $15,000 and $34,999. This was followed by 28% of households earning under $15,000. Relatively few respondents reported a household income greater than $35,000, although three times as many were reported for the Census in this category. Time of residency and language are measures of assimilation (Carr and Williams 1993). The median length of residence in the U.S. was 17.5 years. Nearly three-quarters (74%) of Latino residents spoke only English, spoke English well, or were bilingual. This distribution may well reflect the dominance of Puerto Ricans in the sample – they are Pennsylvania's largest Latino population; as well, Pennsylvania has not historically served as an immigrant destination for Latinos. The remainder of the sample did not speak English or spoke English poorly.

Residents who earned household income from wages, business, interest or other investments, and/or rental property consisted of just over 77% of the sample. Those who had income from supplemental security, disability benefits, social security, retirement pension, unemployment insurance, food stamps, and public assistance made up the remainder. Finally, in terms of political orientations, about 39% of the Latino residents in the study area considered themselves moderate, 25% were conservative, and 37% self-described as liberal.

Table 4.3. Characteristics of Survey Participants and Comparison with 2000 Latino Census Population[4]

Indicator	N	%	SD
Municipality	459		
Atn	126	27.5	
B-E	66	14.4	
HWS	27	5.9	
Rdg	190	41.4	
SES	50	10.9	
Age (median=39)	366		1.5
18-29	230	62.8	
30-39	81	22.1	
40+	55	15	
Gender	445		0.5
Female	215	48.3	
Male	230	51.7	
Highest School Level Completed	443		0.7
None or grade school	111	25.1	
High school or some college	233	52.6	
College and professional	99	22.3	
Median Household Size			
Income	411		0.6
< $15,000	114	27.7	
$15,000 to $34,999	265	64.5	
$35,000+	32	7.8	
Political Orientation	439		0.8
Liberal	160	36.4	
Moderate	171	39	
Conservative	108	24.6	
Income Sources			
Wages, business, interest or other investments, rental property	354	77.1	
Other*	89	19.4	
Place of Birth	427		1.8
USA (mainland)	96	22.5	
Puerto Rico	113	26.5	
Other Caribbean	64	15	
Mexico	52	12.2	
Central America	26	6.1	
South America	76	17.8	
Time in USA (median=17.5)	458		
<10	102	22.3	
11-20	87	19	
21-30	58	12.7	
31+	211	46.1	
Speak English	441		0.4
Only Spanish or poor English	114	25.9	
Speak English well, bilingual	327	74.1	

Analysis Procedures

Four phases of statistical analysis were completed using the collected household survey data. Following calculation of frequency distributions for the core conceptual measures, factor analysis was

[4] For Census sociodemographics, see Chapter Five

used to reduce the number of variables for multivariate analysis (Appendix D). Factor analysis is a multivariate statistical technique that identifies common attributes among the respondents for the constructs (DeVellis 2003). The basic assumption of factor analysis is that underlying correlated factors can be used to explain a complex relationship among related variables. This "grouping" eliminates the need to determine which of the key variables belong in the analysis when there is limited theory available for guidance. The reliability of each construct was measured using Chronbach's coefficient alpha. The resulting measures were used to determine how dependably items used in a composite variable measured the construct in the same manner (DeVellis 2003).

Following construction of the composite measure, bivariate correlations were examined to determine whether the strength and direction of relationships were consistent with the conceptual model. Multivariate analysis, using ordinary least squares (OLS), was used to determine associations between variables representing conceptual constructs. OLS minimizes the sum of the squared residuals or the differences between observed and expected values (Long 1997). I used means replacement, a widely used form of data imputation, (Myers et al. 2006) due to a wide range of partial variables for each case. Several reasons for missing variables became evident during data collection, the primary reason was respondents' failure to complete the questionnaire. As well, some participants had difficulty with the language used in the survey due to literacy levels.

Most of the assumptions of OLS regression were met in this analysis. Variables in violation of any assumption was transformed according to the procedure indicated (Myers et al. 2006). No evidence of non-linearity or multicollinearity was found. There was no evidence of heteroscedasticity. Findings are reported in Chapter Seven.

Operationalization

The development of scaled variables using factor analysis was based on the aggregate dataset. It was anticipated the empirical model would share similarities across study sites, but would differ based on contextual factors. I focused on the aggregate data level in order to capture anticipated community

differences and enable comparison. Factor loadings, correlation matrices, and comparisons of reliability scores are found in Appendix D.

Dependent Variable: Environmental behaviors included household actions (e.g., recycling) as well as participation in environmental organizations. From the household survey, I explored three types of dependent variables that measured environmental behaviors.

(1) Participation in environmental or conservation organizations ("Environmental Involvement") measures respondents' participation in seven different activities in response to environmental values, attitudes, or concerns (Question 20). Items to the question "Please indicate whether you have participated in any of the following environmental or conservation organizational activities during the past year" were originally coded 1 = yes, 2 = no for each action. For analysis, responses were recoded to 0 = no, 1 = yes. Items included: (a) attended meetings; (b) planned or organized; (c) donated money; (d) donated goods and or services; (e) read a periodical or newsletter; (f) talked to a community leader about an environmental issue; and (g) signed a petition or written a letter about an environmental issue.

Measures were combined based on an exploratory factor analysis using principal components factoring with varimax rotation and pairwise deletion. See Appendix D for factor loadings. The exploratory factor analysis, estimated for a one-factor solution and 0.4 for the central factor loading, resulted in the emergence of one factor containing seven variables (Raubenheimer 2004). Component loadings ranged from a maximum of 0.741, to a minimum of 0.621, an Eigenvalue of 3.14, and 45% of the variance explained. From these items, a composite dependent variable was calculated by creating an average for each case to account for partial missing variables. The resulting composite variable had a Chronbach's Alpha of 0.79.[5] Examination of the Environmental Involvement variable revealed it to be severely skewed (positive). This violates

[5] The alpha reliability coefficient indicates the strength of the relationship across the variables that measure the underlying, or latent, variable on a scale from 0 to 1. The eigenvalue indicates the proportion of the amount of variation captured by the factor. The corresponding percentage of variance reflects the total amount of information retained from the original measures.

OLS regression's underlying assumption of normality (Myers et al. 2006). This problem was corrected by performing a logarithmic transformation.

(2) Daily environmental actions at home ("Household Environmental Behaviors") were assessed using seven items (Question 23). Items to the question "How often do you participate in each of the following activities" were originally coded 1 = never; 2 = rarely; 3 = sometimes; or 4 = often. For analysis, responses were recoded to 0 = never/rarely; 1 = sometimes/often because the analysis focused on participation to a greater degree than "rarely."

Items included: (a) make a special effort to buy fruits and vegetables grown without pesticides and chemicals; (b) refuse to eat meat for moral or environmental reasons; (c) sort glass or paper or plastic for recycling; (d) cut back on eating meat for moral or environmental reasons; (e) try to use less water when showering or bathing; (a) use energy saving light bulbs; (b) use energy saving appliances.

Measures were combined based on an exploratory factor analysis using principal components factoring with oblique rotation and pairwise deletion. The exploratory factor analysis, estimated for a two-factor solution and 0.4 for the central factor, resulted in the emergence of one factor containing eight variables. Component loadings for Household Environmental Behaviors ranged from a maximum of 0.700, to a minimum of 0.514, an Eigenvalue of 4.473, and 37% of the variance explained. From these items, a composite dependent variable was calculated. The resulting composite variable had a Chronbach's Alpha of 0.82. Items with lower cross-loadings (< 0.600) were retained for analysis due to their conceptual importance to environmental behaviors; were greater than the central factor-loading of 0.4; and contributed to the high reliability coefficient.

(3) The second factor (also Question 23), daily environmental actions in the locality ("Local Environmental Behaviors"), used four items: (c) take part in litter clean-ups; (d) clean and remove graffiti from local structures; (e) bike or walk to work for environmental reasons; (f) use public transportation for environmental reasons.

Component loadings for Local Environmental Behaviors ranged from a maximum of 0.794, to a minimum of 0.749, an Eigenvalue of 1.765, and 15% of the variance explained. From these items, a composite dependent variable was calculated with a Chronbach's Alpha of 0.81.

Independent Variables

(1) Recreation has been found to influence environmental behaviors (Dunlap and Heffernan 1975; Theodori et al. 1998). Recreation behaviors were measured using two variables. The first recreation behavior ("Recreation Activities") measured activity intensity using a composite scale of 18 recreation activities (Question 18). Responses to the question "Please indicate whether you have participated in the any of the following outdoor activities during the past year in state parks, state forests, or local parks" were originally coded (1) state parks, (2) state forests, (3) local parks, and (4) none. For analysis, responses were recoded (1) none; (2) local parks; and (3) state parks and forests.

Measures were combined based on an exploratory factor analysis using principal components factoring with oblique rotation and listwise deletion. The exploratory factor analysis, estimated for a one-factor solution and 0.4 for the central factor loading, resulted in the emergence of one factor containing 18 variables. Component loadings ranged from a maximum of 0.715, to a minimum of 0.572, an Eigenvalue of 9.656, and 44% of the variance explained. The resulting composite variable had a reliability coefficient (Chronbach's alpha) of 0.92. Based on this reliability indicator, all 18 items were included in the composite measure.

(2) The second recreation behavior ("Recreation Location") was a four category variable measuring location of activity based on combined responses from two questions. Question 12 ("During the past year, how often have you visited any of the following public lands") was originally coded (1) no visits, (2) once, (3) 2 to 5 visits, (4) 6 to 10 visits, or (5) more than 10 visits. Question 13 ("Do you visit any local parks") was originally coded (1) yes, (2) no. The combined variable Recreation Location was coded into four categories: (0) had not visited any parks, (1) visited only local parks, (2) visited only state parks, (3) visited both state and local parks.

(3) Connectivity with nature (Dutcher et al. 2007) suggests unity and empathy with nature. To what degree one feels a part of nature is referred to as connectivity with nature in this study. Connectivity is measured using a composite variable ("Connectivity") constructed from eight items (Question 27). Items to the question "For each of the following statements, please tell me how strongly [you] disagree (1), somewhat disagree (2), neither agree nor dsagree (3), somewhat agree (4), or strongly agree (5)." For analysis, responses were recoded to 1= strongly disagree, 2 = somewhat agree/disagree, 3= strongly agree. Items were selected based on the conceptual understanding of Connectivity and included: (d) I think of the natural world as a community to which I belong; (f) I feel a sense of oneness with nature; (a) I often feel disconnected from nature (reverse coded); (b) spending time outdoors is spiritual for me; (c) being outdoors is only worthwhile when I can share it; (d) I belong to the Earth as it belongs to me; (e) nature is better off when people leave it alone; (f) caring about the environment is an important part of being Latino.

Measures were combined based on an exploratory factor analysis using principal components factoring with varimax rotation and pairwise deletion. The exploratory factor analysis, estimated for a one-factor solution and 0.4 for the central factor loading, resulted in the emergence of one factor containing eight variables. Component loadings ranged from a maximum of 0.756, to a minimum of -0.447, an Eigenvalue of 3.56, and 45% of the variance explained. From these items, a composite dependent variable was calculated. The resulting composite variable had a Chronbach's Alpha of 0.72. Items with lower cross-loadings (< 0.600) were retained for analysis due to their conceptual importance to measuring connectivity; were greater than the central factor-loading of 0.4; and contribution to the reliability coefficient.

(4) Ethnicity: Three indicators were used to operationalize Latino ethnic characteristics: (a) Due to inadequate frequencies, cells containing the country of origin for each case were collapsed into six areas: USA, Puerto Rico, other Caribbean, Mexico, Central America, and South America; and (b) two variables assessed levels of assimilation: respondent's self-reported number of years

living in the United States ("Time") and respondent's self-reported ability to speak English as 0 = "only Spanish or poor English" or 1 = "speak English well" (Carr and Williams 1993).

(5) Community – (1) Allentown; (2) Bethlehem and Easton; (3) Hazleton, Wilkes-Barre, Scranton; (4) Reading; (5) Stroudsburg and East Stroudsburg. These categories were collapsed from nine categories representing each municipality due to frequency distributions (Table 4.3). To simplify analysis, community factors were combined into variables based on survey location. Municipalities were then combined into categories based on geographical proximity.

(6) Sociodemographic Characteristics: A limited number of variables were included to control for spuriousness. As well, these variables allowed for an evaluation of whether selected characteristics of respondents influence environmental behaviors. These variables are:

a. Age – Respondent's self-reported age at time of survey response
b. Gender – (0) female; (1) male
c. Education completed – (1) none or grade school; (2) high school or some college; (3) bachelor's, associate's, or professional degree. These three categories were collapsed from six categories due to frequency distributions.
d. Political orientation – (1) liberal, (2) moderate, or (3) conservative. This nominal variable was arbitrarily coded and did not contain ordered responses.
e. Income – (1) less than $15,000; (2) $15,000 to $34,999; (3) over $35,000.

Facilitated Discussion Groups

Purpose, Design, and Analysis

Data drawn from the household surveys was coupled to the information from the key informant process and secondary data review to inform the third stage of the project – conducting facilitated discussion groups with Latino residents in several municipalities. These groups provided a forum for feeding study findings back to the target population (Elmendorf and Luloff 2001). By doing this, the discussion groups stimulated additional insights into our research and provided necessary corrections and amendments. Observation of group dynamics also provided additional insights into the responses during

the previous phases of the research. I do not include a detailed analysis of the facilitated discussion data here due to space constraints (see Gordon 2009 for this information), but explain the method here because it contributed to other phases of the project.

Each of the groups focused on a common set of questions designed to identify outdoor recreation issues and needs relevant to them. The group sessions were conducted *only* in Spanish and core questions (Appendix E) asked participants: (1) if they take part in activities in parks and natural areas and, if so, what they are and why they are special; (2) what keeps them from participating in specific activities; (3) if there are any activities they would like to participate in, but are unable to and why; (4) how they would feel if they no longer had access to natural areas; (5) if and how Latinos think about natural resources differently than nonLatinos; (6) if and how their thinking about the natural environment may have changed over time; (8) concerns they have about the environment and who is responsible for the problems; and (9) their favorite outdoor places using a cognitive mapping technique.

The group sessions were divided into three sections. During the first part of the meeting, we focused on questions related to outdoor recreation. The middle section focused on a cognitive mapping exercise when participants were asked to place stickers representing their favorite outdoor areas on a wall map and label these locations. Because the map was purposefully vague, the procedure forced participants to work together to locate and decide the most important places for their communities. The last part of the meeting addressed environmental attitudes and concerns. Additional questions were introduced to assess environmental behaviors and activism. With one exception, each session lasted between 90 and 120 minutes. One session in Reading took place with a group of Latino environmental activists and lasted for 3.5 hours.

With participants' approval (Appendix E), interviews were tape-recorded to complement the interviewer's notes. Interviews were transcribed, coded, and interpreted by emergent themes following standard qualitative analysis guidelines as described in the section on key informant analysis.

Participant Characteristics

Eight facilitated discussions were held throughout the survey area (Table 4.4). Locations included Hazleton, Easton, Bethlehem, Allentown, Reading, and East Stroudsburg. Two sessions were held in Allentown and Reading due to the large Latino population in these cities. The proportion of participants overall was concentrated in Reading (23%), followed by Hazleton (19%), East Stroudsburg (16%), Allentown (16%), Bethlehem (16%), and Easton (7%).

Ninety-six people participated in these discussions (Table 4.5). Their median age was 29.5. People under 30 accounted for 50% of the participants, reflecting the Latino population as a whole. There were slightly more females (56%) than males (44%). Reflecting Pennsylvania's large Puerto Rican and Dominican populations, nearly three-quarters 71.9%) of the participants had Caribbean ancestry. Although only one person claimed U.S. ancestry, 30.2% were born in the U.S. and 49% were born in the Caribbean.

Table 4.4. Locations of Facilitated Group Discussions

Location	Date(s)	Participants
Allentown	11/8/2008 5/31/2009	16
Easton	11/15/2008	7
Reading	5/11/2009 5/28/2009	23
Hazleton	5/16/2009	19
Bethlehem	5/21/2009	15
East Stroudsburg	6/3/2009	16

Most participants (64.6%) had lived in Pennsylvania for a decade or less. Over three-quarters (77.1%) spoke English well or very well. The majority had Completed high school or some college (62.5%), while those with college or professional educations constituted 24%, and those with less than high school made up 13.5% of the facilitated group sample.

Intercept Survey

Purpose, Design, and Structure

Knowledge gained through previous phases of the research project was also incorporated into the development of a park intercept survey. The purpose of conducting an intercept survey was to provide an efficient means for gathering data in a real-time context. That is, its use provided direct indications of the

level of interaction of individuals with natural places by providing time and place sensitive data (Miller et al. 1997). Contacting respondents *actually* using natural areas accesses information about actual participant outdoor experiences, opinions, attitudes, and behaviors which adds richness not captured by previous techniques. Questions focused on places where visitors recreated; recreation activities, motivation, and constraints. In addition, questions addressed the value of parks to local economies and the importance of parks for children (Appendix F).

Table 4.5. Characteristics of Participants from Facilitated Group Sessions

Indicator	Percent
Age (median years)	29.5
18-29	50.0
30-39	13.5
40+	36.5
Gender	
Female	56.3
Male	43.8
Ancestry	
USA	1.0
Caribbean	71.9
Mexico	7.3
Central America	4.2
South America	15.6
Place of Birth	
USA	30.2
Caribbean	49.0
Mexico	7.3
Central America	4.2
South America	9.4
Length of time in PA (years)	
1-10	64.6
11-20	25.0
21-30	9.4
31+	1.0
English speaking proficiency	
Only Spanish or poor English	22.9
Speak well / fluent / bilingual	77.1
Highest school level completed	
None or some high school	13.5
High school or some college	62.5
College and professional	24.0

Based on data from key informant interviews and the household survey, seven outdoor recreation sites were originally selected for the intercept survey: (1) Beltzville State Park; (2) Nockamixon State Park; (3) French Creek State Park; (4) Blue Marsh Lake; (5) City Park; (6) Saucon Park; and (7) Jordan Park. Selected parks were reported as popular destinations for Latino visitors (Table 4.6). Public forests

were not mentioned often enough to warrant inclusion. Although important for Latino recreation, the Delaware Water Gap was not selected due to the study's focus on state area and difficulties in gaining access to conduct the intercepts on national park land.

Surveys (N=1,277) were conducted in four state parks and three municipal parks in six of the research counties (Table 4.7). Data collection took place from May 22, 2009 to July 5, 2009. Two adjustments from the proposed study were made to site selection. First, Blue Marsh Lake Recreation Area managed by the Army Corps of Engineers was frequently mentioned as a favorite area for Latinos. However, constraints in gaining permission to study the area necessitated the substitution of Marsh Creek State Park, also a popular destination for Latinos. Second, Cedar Creek Parkway in Allentown was substituted for Jordan Municipal Park due to concerns about the safety of the survey administrators after conducting forty-three surveys in the latter. Key informants also frequently mentioned Cedar Creek Parkway. The surveys from these two municipal sites were combined to provide information on Allentown City Parks.

Table 4.6. Frequencies of More than One Visit to a State Park in the Household Survey

Place	Percent
Blue Marsh Lake RA	30.3
Beltzville State Park	20.9
Delaware Water Gap NRA	18.7
Marsh Creek State Park	15.9
French Creek State Park	14.4
Nockamixon State Park	13.1
Lackawanna State Park	13.1
Tobyhanna State Park	12.0
Promised Land State Park	10.5
Hickory Run State Park	9.4
Locust Lake State Park	9.4
Tuscarora State Park	8.3
Nescopeck State Park	8.3

Data was collected in intervals to include representation of visitors during holidays, weekends, and weekdays. Surveys were conducted orally in English and Spanish to Latino and nonLatino participants by trained administrators. NonLatino visitors were interviewed (a) to avoid racial profiling;

and (b) for data comparison. As a token of gratitude, participants were given a booklet containing information on state parks[6] and forests and a Penn State pencil.

Table 4.7. Locations of Intercept Surveys and Distribution of Latino/NonLatino Respondents (N=1,277)

Park	Original n	Revised n	Completed N	% of N	% Latino	% NonLatino
Beltzville S.P.	200	---	192	15.0	70.3	29.7
Nockamixon S.P.	75	200	200	15.7	35.0	65.0
French Creek S.P.	200	---	202	15.8	42.1	57.9
Marsh Creek S.P.	50	200	200	15.7	35.5	64.5
Allentown Parks*	75	---	118	9.2	72.9	27.1
Saucon Park (Bethlehem)	75	200	200	15.7	75.0	25.0
City Park (Reading)	75	200	165	12.9	72.1	27.9

*Due to safety issues, Cedar Creek was substituted for Jordan Park after 43 surveys were collected. As such, the two were combined into "Allentown Parks" for analysis.

Like the household survey, a purposive sampling technique was used. Administrators were trained to tally each respondent's ethnicity (i.e., Latino or nonLatino). At the conclusion of each day, a team leader assessed each administrator's tally and instructed the team to focus on the respondent group with fewer tallies the following day. In this way, the research team was able to monitor a rough approximation of the ratio between Latino and nonLatino participants to ensure sufficient Latino representation. Given relative visitation patterns, this would have been unlikely using a random sampling method. As Table 4.7 indicates, initial sample sizes were adjusted based on budgetary considerations and the importance of each park to Latino visitors.

Participant Characteristics

Ancestry indicates a majority of Latino survey respondents (57% vs. 44% nonLatino respondents; Table 4.8). More than 8 out of 10 (82%) nonLatino respondents were white. The sample had a median age of 38 (N=1,232), with Latinos having a slightly higher median age than nonLatinos. About a quarter (25%) of respondents were in the youngest age group; 29% in the middle group; and 46% in the oldest age group. A greater percentage of Latino respondents were in the 18-29 (27% vs. 21%) and 30-39 age groups (31% vs. 27%) than nonLatinos. A greater proportion of nonLatinos than Latinos were in the oldest age group (52% vs. 42%). The two groups were nearly equal in gender, with slightly more women than men overall (52% vs. 49%).

[6] Many participants were previously unaware of the booklet and expressed appreciation for it.

While the majority of respondents completed high school, Latinos tended to have less education than nonLatinos. Of those who did not complete high school, 53% were Latinos and 7% were nonLatinos. Only 12% of Latino respondents had a college or professional degree vs. the majority (50%) of nonLatinos. Over four in ten (43%) Latino respondents and two in ten (24%) nonLatinos reported household incomes of $15,000 to $34,999. By contrast, 65% of nonLatinos had incomes over $35,000 compared to 33% of Latinos. A smaller proportion of nonLatinos than Latinos earned less than $15,000 (11% vs. 23%).

Table 4.8. Characteristics of Survey Participants

Indicator	N	% Total	% Latino	% NonLatino
Age (median years)	1,232	38	39	38
18-29	304	24.7	27.1	21.4
30-39	359	29.1	30.7	27.1
40+	569	46.2	42.1	51.5
Gender	1,275			
Female	662	51.9	51.4	52.6
Male	613	48.1	48.6	47.4
Highest school level completed	1,267			
None or grade school	416	32.8	52.7	7.4
High school or some college	489	38.6	35.3	42.8
College and professional	362	28.6	12.0	49.8
Income	1,144			
<$15,000	204	17.8	22.9	10.9
$15,000 to $34,999	397	34.7	42.6	23.9
$35,000+	543	47.5	34.4	65.2
Ancestry	716		56.1	43.9
Puerto Rico	458		64.0	
Caribbean	99		13.8	
Mexico	83		11.6	
Central America	40		5.6	
South America	36		5.0	
Born in USA	535		76.4	
Years in USA (median years)	716		35	
1-10	165		23.0	
11-20	191		26.7	
21-30	174		24.3	
30+	186		26.0	
English speaking proficiency	716			
Only Spanish or poor English	132		18.4	
Speak well, bilingual	584		81.6	
Race	561			
White	459			81.8
Black/African American	46			8.2
American Indian	9			1.6
Asian	35			6.2
Other	11			2.0
Refused	1			0.2

As expected, the majority (64%) of Latino participants were of Puerto Rican descent, followed by other Caribbean groups (14%), Mexicans (12%), Central Americans (6%), and South Americans (5%). No Latino respondent reported having U.S. ancestry, although over 3/4 were born in the U.S.. Residence in the U.S., a measure of assimilation, was relatively even across the four categories with a slight majority (27%) having 11 to 20 years in the country. Unsurprisingly, 8 of 10 (82%) respondents spoke English well or fluently.

Analysis Procedures

Like the household survey, frequency distributions for the core conceptual measures were calculated and factor analysis was used to reduce the number of variables for multivariate analysis (Appendix G). Bivariate correlations were examined to determine whether the strength and direction of relationships were consistent with the conceptual model. Multivariate analysis, using binary logistic regression (Myers et al. 2006), was used to determine associations between variables representing conceptual constructs. Because the dependent variable is dichotomous, the assumption of equal variance is violated and the best-fit line is s-shaped instead of linear (Myers et al. 2006). Thus, binary logistic regression was more appropriate for the analysis. Findings are reported in Chapter Seven as adjusted odds ratios.

Operationalization

Dependent Variable: Respondents were asked “Do you regularly take any individual actions to conserve the environment” (“Environmental Behaviors”). The term environment intentionally allowed for broad interpretation by the respondent. Respondents circled dichotomized possible responses (0= yes, 1= no). A follow-up open-ended question asked respondents to describe their environmental behavior; however, this was not included in the present analysis.

Independent Variables:

(1) Recreation motivations (Question 4) were measured using two variables. The first, (“Relax Motivations”) was made of four items in response to the question “How important were the following factors in deciding to use this facility.” Items were originally coded 1= important, 2

= neither important nor unimportant, 3 = unimportant. Responses were recoded to: (0) unimportant and neither important nor unimportant, and (1) important.

Measures were combined based on an exploratory factor analysis using principal components factoring with oblique rotation and pairwise deletion. The exploratory factor analysis, estimated for a two-factor solution and 0.4 for the central factor, resulted in the emergence of one factor containing three variables (Raubenheimer 2004). Items included: (a) doing something with my family, friends; (b) getting out of the house to enjoy fresh air; (c) relaxing. Component loadings for Relax Motivations ranged from a maximum of 0.809, to a minimum of 0.727, an Eigenvalue of 1.784, and 35% of the variance explained. The resulting composite variable had a Chronbach's Alpha of 0.68.

(2) The second concept was related to facility characteristics ("Facilities Motivations") and included the remaining 10 items: (d) convenient location; (e) quality/reputation of facilities; (f) quality/reputation of programs; (g) amount of crowding; (h) a chance to eat traditional food; (i) listening to good music; (j) playing in the pool; (k) a place for my children to play; (l) getting exercise; (m) only facility available; (n) seeing animals in their natural habitat. Component loadings for Recreation Motivations Related to Facilities ranged from a maximum of 0.691, to a minimum of 0.261, an Eigenvalue of 3.190, and 23% of the variance explained. Although cross-loadings for three items fell below the central factor of 0.4, they were retained in the final composite variable. This decision was made because the final composite variable had a reasonably high reliability coefficient (Chronbach's Alpha of 0.73) and were important to the concept of recreation Facilitieis Motivations.

(3) Recreation constraints ("Recreation Constraints") were assessed using 14 items (Question 13). Respondents were asked "If you never or seldom use State Parks, what are your reasons." Items were originally coded 1= important, 2 = neither important nor unimportant, 3 = unimportant. Responses were recoded to: (0) unimportant and neither important nor unimportant, and (1) important. Items included: (a) lack of money; (b) facilities are not

convenient; (c) lack of time; (d) facilities aren't safe; (e) don't know what is available; (f) can’t find anyone to go with; (g) too tired after work; (h) uncomfortable among other visitors; (i) facilities are overcrowded; (j) nothing for me to do; (k) too far away; (l) no transportation to get there; (m) admission fees are too high; and (n) facilities are poorly maintained. Measures were combined based on an exploratory factor analysis using principal components factoring with oblique rotation and pairwise deletion. The exploratory factor analysis, estimated for a one-factor solution and 0.4 for the central factor loading, resulted in the emergence of one factor containing 14 variables (Raubenheimer 2004). Component loadings ranged from a maximum of 0.802, to a minimum of 0.542, an Eigenvalue of 7.130, and 51% of the variance explained. The resulting composite variable had a reliability coefficient (Chronbach’s alpha) of 0.93. Based on this reliability indicator and conceptual considerations, all 14 items were included in the composite measure.

(4) Recreation behaviors were measured using 23 activities (Question 5). Respondents were asked to “Indicate where you have participated in any of the following outdoor activities during the past year.” Items were originally coded (1) if the respondents participated in state parks; and (2) for local parks. The item was left blank if the respondent did not participate in the activity and the respondent circled both possible answers if he or she participated in both places. Responses were recoded into 0 = none, 1 = local parks, 2 = state parks, 3 = both local and state parks. Respondents circled both possible responses if they participated in the activity in both places and left the item blank if they did not participate in the activity. Measures were combined based on an exploratory factor analysis using principal components factoring with oblique rotation and listwise deletion. The exploratory factor analysis estimated for a two-factor solution and 0.4 for the central factor. Four items (sightseeing, wildlife, meditating, washing car) revealed cross-loadings below 0.4. Because these items were also conceptually less important than the other items, they were withdrawn from the analysis. As a result, the first factor (“Appreciative to Slight”) contained 9 variables.

Component loadings for Appreciative to Slight ranged from a maximum of 0.745, to a minimum of 0.438, an Eigenvalue of 2.480, and 11% of the variance explained. The resulting composite variable measured appreciative to slight recreation activities (Theodori et al. 1998) and had a Chronbach's alpha of 0.77.

(5) The second factor ("Moderate to Intensive") used 10 items. Component loadings for Moderate to Intensive ranged from a maximum of 0.726, to a minimum of 0.400, an Eigenvalue of 5.208, and 23% of the variance explained. The resulting composite variable measured appreciative to slight recreation activities and had a Chronbach's alpha of 0.77; thus, all items with factor loadings 0.4 and greater were retained for the analysis.

(6) Ethnicity: Four indicators were used to operationalize Latino ethnic characteristics: (a) respondents self-identified as (1) Latino or (2) nonLatino; (b) due to inadequate frequencies, cells containing the country of origin for each case were collapsed into six areas: U.S., Puerto Rico, other Caribbean, Mexico, Central America, and South America; and (c) two variables assessed levels of assimilation: respondent's self-reported number of years living in the U.S. ("Time") and respondent's self-reported ability to speak English as 0 = "only Spanish or poor English" or 1= "speak English well."

(7) Community: Respondents' zip codes were collected and included in the analysis as a community-type factor. Similar zip codes were grouped and matched to corresponding municipalities using an on-line zip code locator finder. Next, zip codes were recoded: 1 = Allentown; 2 = Bethlehem and Easton; 3 = East Stroudsburg and Stroudsburg; 4 = Hazleton, Wilkes Barre, and Scranton; 5 = Reading; 6 = Other.

(8) Sociodemographic Characteristics: A limited number of variables were included to control for spuriousness. As well, these variables allowed for an evaluation of whether selected characteristics of respondents influence environmental behaviors. These variables included:

   a. Age – Respondent's self-reported age at time of survey response

   b. Gender – (0) female; (1) male

c. Education completed – (1) none or grade school; (2) high school or some college; (3) bachelor's, associate's, or professional degree. These three categories were collapsed from six categories due to frequency distributions.

d. Income – (1) less than $15,000; (2) $15,000 to $34,999; (3) over $35,000

Reliability and Validity

For both the qualitative and quantitative portions of data analysis, effort was taken to base all measures on careful interpretation of the extant literature and theory regarding all constructs included in the conceptual model. In an attempt to achieve construct validity; multiple measures met two criteria: (1) the measurement results needed to be strongly correlated with other measures of the same construct; and (2) the results of measurement should be uncorrelated with measures that are not expected to be related to the construct of interest (Tashakkori and Teddlie 1998).

Due to the study's narrow focus (using purposive sampling) on the Latino populations of each community, sample validation was not practical for assessing external validity of the survey data. As well, U.S. Census data is notoriously inaccurate, especially among minority respondents who are often difficult to identify or unwilling to participate. A recent report from the Brookings Institution (2009) notes:

> …[T]here is, indeed, a "differential racial undercount," just as critics say. In 2000, 4.4 percent of blacks were uncounted, 4.5 percent of American Indians, and 5.0 percent of Latinos, compared with only 0.7 percent of nonLatino whites. Moreover, this gap has widened over the past 50 years.

The quantitative analysis incorporated standard methods of reliability and validity. Multiple independent variables as described above were analyzed to determine their influence on perceptions, attitudes, and behaviors. In several cases, scales or composite variables were created to reduce the overall number of variables in the analysis and to reduce random errors associated with reliability and validity (DeVellis 2003). Factor analysis and correlation tables were used to determine which items best fit together as composite variables as measures of a single concept (Kim and Mueller 1978). Multiple indicators were used for each construct in the conceptual model. Internal consistency, or reliability, has

been tested using Cronbach's alpha coefficients to determine whether ranges of items used in composite variables measure attributes in the same way (DeVellis 2003).

Mixed methods enabled careful wording of questions which, in turn, increased the reliability of answers from both qualitative and quantitative procedures (Fowler 2002). Thick description, prolonged engagement with respondents, and the compilation of reflexive field notes during all phases of research further increased trustworthiness of the study (Tashakkori and Teddlie 1998).

CHAPTER 5

STUDY AREA AND COMMUNITIES

This chapter describes the eleven county regional area, public parks, and the nine major municipalities that are the focus of study. The first section briefly describes the regional setting. The second section describes the area's natural amenities and parks. The third section describes the socioeconomic and sociodemographic context of each primary Latino population area in the study region.

The Study Area: The Pocono Plateau and the Lehigh Valley

The region is characterized by two unique physiographic and sociocultural designations. Pike, Monroe, Luzerne, and Lackawanna Counties are part of the Pocono Plateau ("The Poconos"). Lehigh and Northampton Counties and portions of Berks County are considered the Lehigh Valley (also known as "The Valley"). Schuykill, Carbon, Chester, and Bucks Counties were included in the study due to their natural area attractions; however, these counties did not contain the study population (Figure 5.1).

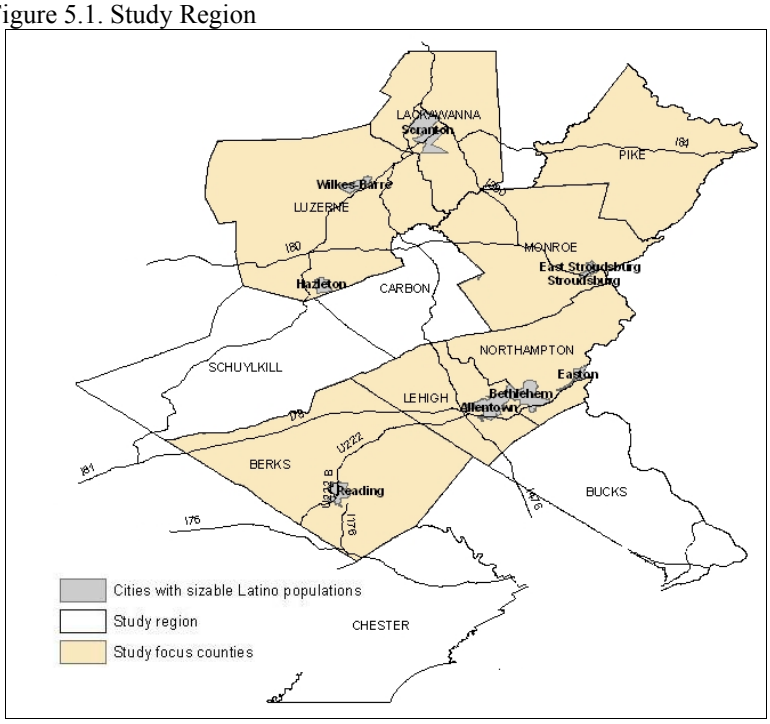
The Poconos are a mountainous region of over 2,400 square miles. It contains over 200 miles of waterways and numerous lakes. The region is well-known for its many waterfalls and coldwater streams. Much of the area remains rural, covered in eastern temperate oak-hickory forests mixed with pine. Contiguous forest is more commonly found in the Poconos than the Lehigh Valley to the south. However, forest fragmentation due to residential growth is occurring heavily in Pike and Monroe Counties (DCNR DoF 2003).

Hazleton, Wilkes-Barre, and Scranton are urban areas on the boundaries of the Poconos in the Lackawanna River Valley. Otherwise, the region lacks a major population center, although there are small municipalities which are scattered throughout the area. Many residents commute to New York City. Scranton is 147 miles from Manhattan and East Stroudsburg is 74 miles away. The commute often takes over 2 hours each way due to distance and traffic. Commuters also travel to Harrisburg, which is 120 miles from Scranton.

The Lehigh Valley is geographically and geologically part of the Great Valley and Blue Ridge/Northern Highlands section of the Great Appalachian Valley, a region that stretches along the

eastern edge of the Appalachian Mountains. A southern chain of mountains from Reading to South Mountain in Bethlehem is known as the Reading Prong (or colloquially, South Mountain). The Lehigh Valley is named for the Lehigh River running between Blue Mountain to the north and South Mountain. Like The Poconos, eastern temperate forests, some northern forests, and many lakes and rivers characterize the landscape.

Figure 5.1. Study Region



The Lehigh Valley is located approximately 50 miles north of Philadelphia, the country's sixth largest city (over 1.5 million people in 2000) and 80 miles east of Harrisburg (almost 49,000 residents in 2000). It is located just seventy miles from the country's largest city with over 8 million residents in 2000. More specifically, the Lehigh Valley is part of the New York Metropolitan Statistical Area with a population of nearly 18 million in 2000. As a result of its location, the area serves in a bedroom capacity for Philadelphia, New Jersey, and New York City.

Public Natural Areas

The majority of the study region is forested (Table 5.1). The state owns most of the public forested lands in the study region. However, the number of county areas is more than double the number

of state areas. Luzerne County contains more state areas than the other counties while Monroe County contains the greatest amount of locally-owned natural areas. The area boasts numerous opportunities for outdoor recreation in public natural areas. Northampton County has the most state parks and municipal parks. Pike County has the fewest number of parks of the six counties. Lackawanna County has the greatest number of county recreation areas. According to PASDA 2009, there are 125 local parks in the study region.

Table 5.1. Frequencies of Outdoor Recreation Areas and Forest Accessibility in Study Region.

	Federal forest areas	State parks/ outdoor areas	County parks/ recreation areas	Municipal parks/ recreation areas	Nonforest (acres)	Accessible forest (acres)	No Forest Access (acres)
Study Area	2	100	238	121	1,081,179	1,119,533	54,720
Berks	--	13	55	11	356,701	177,881	12,214
Lackawanna	--	15	94	27	96,150	187,939	9,434
Lehigh	--	13	12	18	157,505	58,624	6,177
Luzerne	--	8	23	3	181,722	363,804	20,067
Monroe	1	17	42	5	110,501	270,648	6,828
Northampton	--	33	10	49	178,600	60,637	--
Pike	1	1	2	8	--	--	--

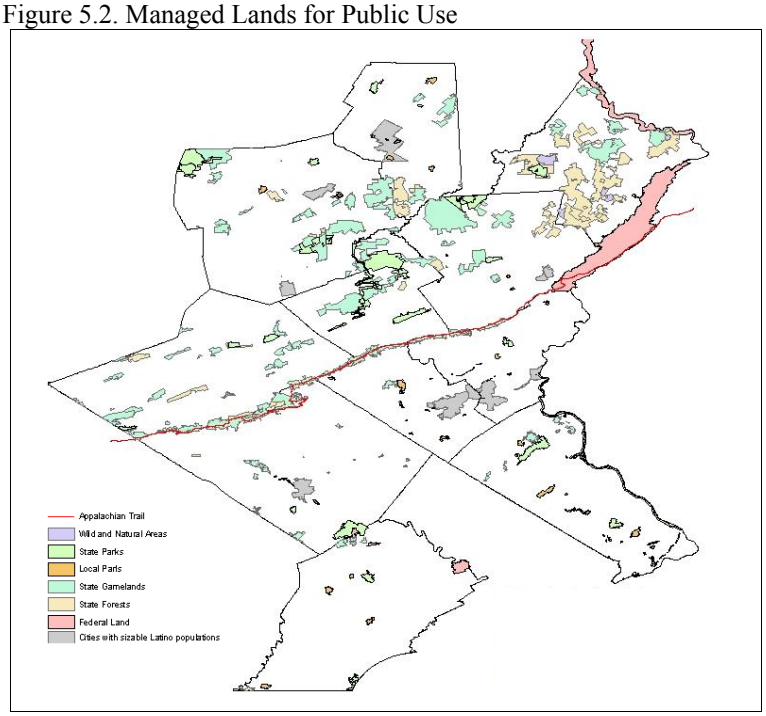
Sources: McWilliams 2008, PASDA 2008, Municipal and county parks and recreation websites 2008. Forest cover data is not available for Pike County.

The majority of the public natural area acreage is managed by the Bureau of Forestry (four state forests totaling 174,691 acres), followed by the Bureau of Parks (24 parks). The Delaware State Forest is the largest state forest in the region (79,568 acres). In Pike and Monroe Counties, the U.S. Park Service manages The Delaware Water Gap National Recreation Area. In addition to managing several reservoirs with the State of Pennsylvania, The Army Corps of Engineers manages Blue Marsh Lake Recreation Area in Berks County. Figure 5.2 illustrates the locations of public area outdoor recreation in the study region.

As explained in Chapter Five, Latino key informant interview participants most often mentioned these places as destinations for Latinos. Table 5.2 describes activities in the mentioned recreation areas. In addition to observation at all sites, I compiled this list of activities from information posted on the recreation areas' internet sites, signs at the location, and management plans when available. Ten places are state parks, two are federal lands, and six are local parks. Nine places are in The Poconos. Eight of the places are in the Lehigh Valley and within an hour's drive of Philadelphia. Although the Delaware Water

Gap National Recreation Area has the largest area overall, Hickory Run State Park has the largest area of state lands. Na-Aug Park in downtown Scranton has the smallest area. Water bodies are found in all frequently mentioned places. While only four state parks have pools, every local park has a pool. All but one state park and one local park have official picnicking areas. With one exception (Community Park in Hazelton), the local parks do not advertise walking paths or hiking trails. Seven state parks have equipment rental, typically for boating recreation. Six have refreshment stands. Nine places, including both federal sites, advertise environmental education programming.

Figure 5.2. Managed Lands for Public Use



All but one local park (Saucon Park), one federal area (Delaware Water Gap NRA), and six state parks offer playgrounds. Camping is prohibited in two state parks, Blue Marsh Lake RA, and the local parks. Hunting and fishing is allowed in each state park and federal area, and fishing is advertised in two local parks (Community Park and Cedar Creek Park).

Based on data from key informant interviews and the household survey, seven of these places (**in bold**) were selected for the intercept survey (Figure 5.3): Beltzville State Park, Nockamixon State Park, French Creek State Park, March Creek State Park, City Park, Saucon Park, Jordan Park, and Cedar Creek Parkway. Public forests were not mentioned often enough to warrant inclusion.

Table 5.2. Selected Activities for Selected Outdoor Recreation Areas[7]

	Geographic Management Area	Acres	Stream/Lake/Pond	Pool	Picnicking	Walking/Hiking	Equipment Rentals	Refreshment stand	Environmental Ed	Playground/Sports	Camping/Cabins	Hunting	Fishing
Beltzville State Park	**Northeast**	**2,973**	**x**		**x**	**x**	**x**		**x**	**x**		**x**	**x**
Blue Marsh Lake RA	Philadelphia	6,100	x		x	x		x	x	x		x	x
Cedar Creek (Allentown)	**Philadelphia**	**127**	**x**	**x**	**x**	**x**				**x**			**x**
City Park (Allentown)	**Philadelphia**	**49**	**x**							**x**			
Community Park (Hazleton)	Northeast	167	x		x	x				x			x
Delaware Water Gap NRA	Northeast	69,269	x		x	x			x		x	x	x
French Creek State Park	**Philadelphia**	**7,339**	**x**	**x**	**x**	**x**	**x**	**x**	**x**		**x**	**x**	**x**
Hickory Run State Park	Northeast	15,550	x		x	x			x	x	x	x	x
Jordan Park (Allentown)	**Philadelphia**	**157**	**x**	**x**	**x**					**x**			
Lackawanna State Park	Northeast	1,411	x	x	x	x			x		x	x	x
Locust Lake State Park	Allegheny	1,089	x		x	x	x	x	x	x	x	x	x
Marsh Creek State Park	**Philadelphia**	**1,705**	**x**	**x**	**x**	**x**	**x**	**x**				**x**	**x**
Na Aug Park (Scranton)	Northeast	28	x	x	x					x			
Nescopeck State Park	Northeast	3,550	x			x			x		x	x	x
Nockamixon State Park	**Philadelphia**	**5,283**	**x**	**x**	**x**	**x**	**x**	**x**	**x**		**x**	**x**	**x**
Promised Land State Park	Northeast	3,000	x		x	x	x	x	x	x	x	x	x
Saucon Park (Bethlehem)	**Philadelphia**	**62**	**x**	**x**	**x**								
Tobyhanna State Park	Northeast	5,440	x		x	x				x	x	x	x
Tuscarora State Park	Allegheny	1,618	x		x	x	x	x	x		x	x	x

Sociodemographic Characteristics

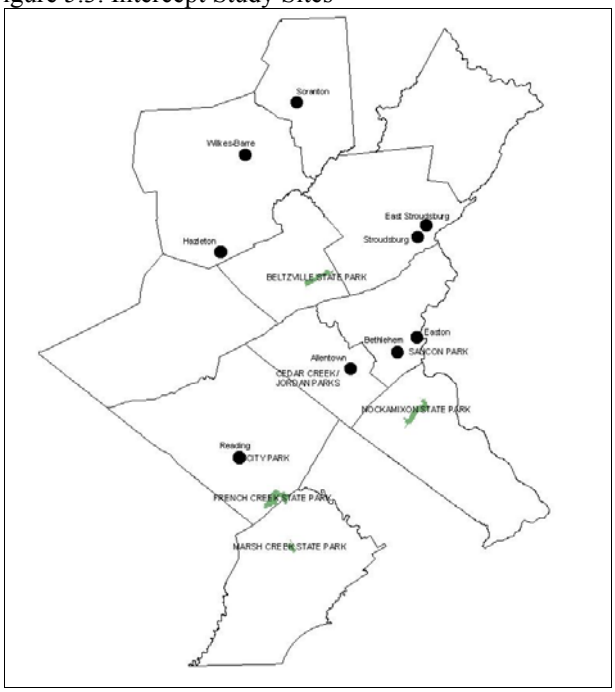
Key informant interviews, facilitated discussion groups, and household surveys were conducted in the nine municipalities of the study area that had the highest concentration of Latinos. This was done for two reasons: (1) almost all key informants came from these places due to snowball sampling procedures; and (2) formal Latino resident group were most likely to be found in these places. I have separated population descriptions into four components. First, I describe the historical context of the regions. Second, I describe total Latino populations for each study site. Third, I discuss how the population is changing. Finally, I give a brief overview of selected socioeconomic indicators compared to the nonLatino population.

[7] Names in bold indicate places sampled for the intercept survey.

Historic Context

The scenic attributes of the Poconos have made Pike and Monroe Counties an outdoor recreation destination for over 200 years (Squeri 2002). Industrialists traveled by train from New York City to Milford where they would spend the summer in hunting and fishing camps. The greatest popularity of the Poconos as a summer retreat began when Philadelphia Quakers started the Buck Hill Falls and Pocono Manor resorts. The area quickly became dotted with vacation cabins. The western portion of the area (Lackawanna and Luzerne Counties) includes what were once anthracite coal mining and steel manufacturing communities, including the urban centers of Hazleton, Wilkes-Barre, and Scranton. A large work force of immigrants, primarily from Ireland, Wales, and Eastern Europe, provided labor for the logging operations, mines, steel mills, and factories. Latino residents were relatively rare in the area until around 1991 when three families from Mexico initiated Latino migration to the area (Long 2005).

Figure 5.3. Intercept Study Sites



Although Latinos have recently arrived in the Poconos, they figure prominently in Lehigh Valley history. The steel industry recruited Mexicans and Puerto Ricans from New York and Mexico to Bethlehem, Allentown, and Reading as early as the 1920's (Anonymous 1931). Resulting from the

spatial distribution of these mills and factories, Latinos have tended to settle along Highway 222. The roadway is known as the "222 Latino Corridor" due to the high percentage of Latinos living along the road in cities such as Easton, Bethlehem, Allentown, and Reading.

Puerto Ricans have historically been the most influential Latino group in the Lehigh Valley (Adams 2000). The first wave arrived in the 1940s, mainly to work in the textile mills and foundries (Antonsen 1997). Because they tended to come from depressed farming areas of Puerto Rico, early and subsequent generations enjoyed moderate upward social and economic mobility. The early 1990s saw a second wave of Puerto Rican migrants and a wave of Dominicans who arrived despite the continued disappearance of blue collar jobs from the area. Like many immigrant groups, Lehigh Valley Puerto Ricans have retained cultural practices and social services through social clubs, religious groups, and Puerto Rican service organizations (Adams 2000).

Latino Populations

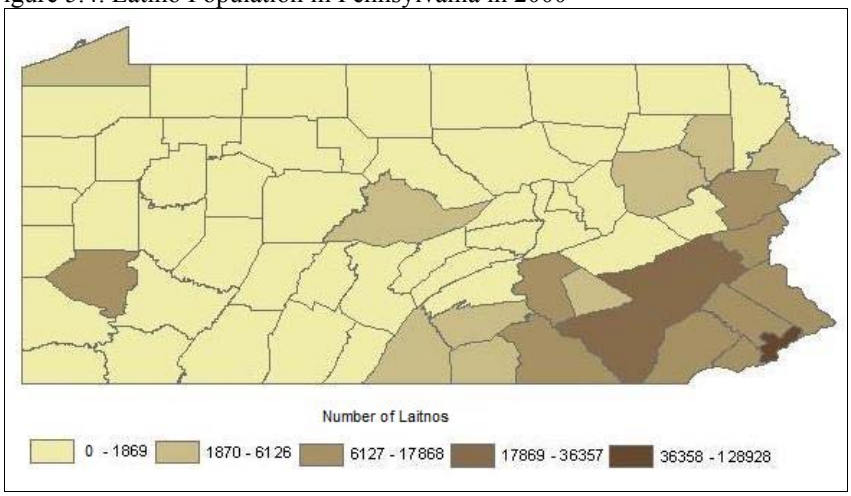
As a whole, the study region has a population of over one million. The Poconos is growing rapidly due to in-migrants from the New York City region turning former vacation homes into permanent residences. In addition, the area's excellent location along the Boston-Washington transportation corridor has led to warehouse development which has attracted a growing workforce. Further, recent census studies show the Lehigh Valley to be the fastest growing region of the state. Many of these new residents are Latinos.

According to limited Census data released in June 2009, there are Latinos in all of Pennsylvania's 67 counties for a total state Latino population of 556,132 in 2009. From 2000 to 2008, the Latino population increased by 50.7 percent, making it by far the fastest growing population group in the Commonwealth; it represents 4.5 percent of the total state population of 12,448,279. The Latino population in the study region is 26% of the total Latino population of the state. Since 2000, the 222 Latino Corridor has become the area with the largest Latino concentration of any region in the state (224,754). This exceeds the Latino population of greater Philadelphia (219,175). The fastest

growing Latino population is concentrated in Northeastern Pennsylvania (Monroe, Lackawanna, and Luzerne Counties) with a total Latino population of 40,840.

The following discussion of demographic data from the 2000 Decennial Census must be interpreted with caution for two reasons. First, the data is ten years old. Decennial Census data was used to describe the study area, because American Community Survey data was not available for all study sites in the region. Second, Census data is estimated from samples. The Census is notorious for undercounting the Latino population due to the difficulty in identifying Latino residences and/or concerns among Latinos about giving their information to government employees (Bourgois 1990).

Figure 5.4. Latino Population in Pennsylvania in 2000



As Figure 5.4 shows, most of Pennsylvania's Latinos lived in the major urban areas of the eastern part of the state in 2000. The largest Latino populations relative to the total county populations of the study area were found in Berks and Lehigh Counties (Table 5.3). The lowest proportions were in Lackawanna and Luzerne Counties. The population was quite young with the percentage of Latinos 17 years old and younger higher in the study region than the state. The largest proportions of Latino youth were found in Berks County, Lehigh County, and Monroe Counties. As a result, the region overall and these counties in particular were expected to experience increased natural growth of the Latino population. Comparing population change between 1990 and 2000 also

gives an idea of Latino growth in the region. In contrast to the state, the Latino population more than doubled. The fastest growth occurred in Monroe and Pike Counties where few Latinos lived in 1990.

Table 5.4 shows that the greatest number of Latinos in 2000 were found in the more populated cities (Reading, Allentown, and Bethlehem, respectively). Puerto Ricans outnumbered any other group in each of the focus counties. Dominicans made up a growing proportion of Latinos in the region and were the dominant group in Hazleton. The Mexican population was also growing and were second to Puerto Ricans in every location except Allentown and Hazleton. Central Americans were most often found in East Stroudsburg. South Americans were strongest in Stroudsburg and Easton.

Table 5.3. Study Region Sociodemographic Characteristics in 2000

	Total Population (2000)	% Latino (2000)	% Latino ≤ 17 Yrs (2000)	Latino Population (1990)	% Change in Latino Population 1990-2000
Pennsylvania	12,281,054	3	38	232,262	70
Study Region	1,670,328	6	41	49,581	110
Berks	373,638	10	42	17,174	112
Lackawanna	213,295	1	39	1,089	172
Lehigh	312,090	10	41	15,001	113
Luzerne	319,250	1	36	2,023	84
Monroe	138,687	7	41	2,052	348
Northampton	267,066	7	38	11,591	54
Pike	46,302	5	38	651	256

Source: Census SF 1 (2000)

Most of Pennsylvania's Latinos spoke only English or spoke it well, possibly related to the high percentage of Puerto Ricans and Pennsylvania as a secondary immigrant destination (Durand and Massey 2004). Stroudsburg and East Stroudsburg had the highest percentage of Latinos who spoke English well, followed by Bethlehem, Allentown, Scranton, Reading, Easton, Wilkes-Barre, and Hazleton. Easton had the highest proportion of Latinos born outside the contiguous United States. This was followed by Hazleton, Reading, Allentown, Bethlehem, Stroudsburg, Scranton, East Stroudsburg, and Wilkes-Barre.

Population Growth

Between 1990 and 2000, the greatest increase in Latinos occurred in Bethlehem (Table 5.5). The population also more than doubled in Stroudsburg. The number of Latinos nearly doubled in

Easton, Reading, and Allentown. Considerably lower percentages of growth occurred in Wilkes-Barre, East Stroudsburg, Hazleton, and Scranton. School district populations give an idea of future population growth. In 1999, Latinos made up 73% of Reading School District students.

Table 5.4. Latino and NonLatino Population Characteristics by City in 2000

	Total Pop. (2000)	% Latino (2000)	% Puerto Rican	% Dominican & Cuban	% Mexican	% Central Amer.	% South Amer.	% Other Latino*	% Speak only English or speak well	% Born Outside Contig. U.S.
Allentown	80,574	32	68	8	4	2	5	14	72	47
Bethlehem	58,327	22	78	3	6	1	3	10	76	44
Easton	9,338	6	50	12	8	3	10	16	65	53
E. Stroudsburg	23,693	11	44	3	24	6	7	16	78	33
Hazleton	22,197	5	24	30	14	3	5	24	59	50
Reading	50,905	60	63	6	18	1	2	10	67	49
Scranton	74,416	3	45	5	28	3	4	15	73	38
Stroudsburg	5,356	7	47	8	10	2	11	23	84	42
Wilkes-Barre	42,440	2	36	5	27	2	3	27	60	25

Source: Census SF 1,3 (1990, 2000); *Census includes Iberian Spanish in "Other"

Table 5.5: Latino Population Change 1990-2000

	Latino Pop. (1990)	% Change in Latino Pop. 1990-2000	Total Students in School District (1999)	% Latino District (1999)	No. of Summer Migrant Students (1999)
Allentown	11,822	83	18,118	59	190
Bethlehem	9,113	234	15,232	38	212
Easton	1,247	94	8,854	13	0
E. Stroudsburg	167	44	8,125	15	0
Hazleton	334	42	9,786	6	394
Reading	14,130	87	17,763	73	815
Scranton	520	35	9,355	8	154
Stroudsburg	259	184	5,932	10	0
Wilkes-Barre	215	46	6,870	4	1

Source: Census SF 3; NCES 2000

This was followed by Allentown, Bethlehem, East Stroudsburg, Easton, Stroudsburg, Hazleton, and Wilkes-Barre. School districts reveal the size of migratory populations as well, which are unlikely to be counted by the Census. The Reading School District had the highest number of summer migrant students, followed by Hazleton, Bethlehem, Allentown, Scranton, and Wilkes-Barre. East Stroudsburg, Easton, and Stroudsburg reportedly had no migrant students in 2000. While this data is not limited to Latino students, it is reasonable to assume the highest proportion of migrant students were Latino based on other population statistics.

Comparisons with NonLatinos

Because this dissertation looks at Latino relationships with natural resources from a community perspective, it is useful to compare some Latino and nonLatino characteristics (Table 5.6). NonLatinos were more likely than Latinos to be employed in all sites except Stroudsburg. The greatest difference were in Wilkes-Barre. This was reflected in the lower median incomes of Latinos in comparison with nonLatinos in six sites. Median income was higher for Latinos than nonLatinos in Wilkes-Barre, Stroudsburg, and Easton. This illustrated not only multiple wage-earners per home, but also the relatively well-off status of many of Pennsylvania's Latinos compared to Latinos in other areas of Pennsylvania as well as other states. However, Latinos were more likely than whites to fall below the poverty level, except in Wilkes-Barre and Stroudsburg. Finally, Latinos had a lower median home value than nonLatinos in all places except Stroudsburg, Wilkes-Barre, and Scranton.

Table 5.6. Social Indicators of Latinos Compared to NonLatinos, 2000

	% In Labor Force		Median Household Income in 1999 ($)		% Below Poverty Level		Median Home Value ($)	
	Latinos	NonLatinos	Latinos	NonLatinos	Latinos	NonLatinos	Latinos	NonLatinos
Allentown	37	50	24,139	34,521	34	10	63,300	79,800
Bethlehem	39	50	23,615	38,527	35	8	72,200	99,700
Easton	40	53	38,214	35,579	21	11	73,500	76,900
E. Stroudsburg	42	50	31,367	33,865	31	12	111,700	115,200
Hazleton	40	53	38,214	35,579	21	11	73,500	76,900
Reading	34	49	21,484	28,991	40	13	41,200	45,200
Scranton	40	47	21,121	29,111	24	13	78,800	78,200
Stroudsburg	50	50	35,982	32,627	5	18	168,800	116,100
Wilkes-Barre	9	46	30,625	27,360	11	15	95,700	64,700

Source: Census SF 3 (2000)

Chapter Summary

In this chapter, I described the natural amenity features and the social contexts of the research. The region was introduced first in terms of its physiographic setting and the many opportunities residents have to take part in outdoor recreation. The study takes place in 11 counties and 9 municipalities of eastern Pennsylvania. The second section described the area's natural amenities and parks. The third section described the socioeconomic and sociodemographic context of each primary Latino population area in the study region. The study area historically has strong ties to natural resources in terms of local economies and culture. Natural resources continue to provide

economic and noneconomic value for residents in terms of recreation and general well-being. The next chapter describes the qualitative analysis of key informant interviews undertaken in the nine municipalities. Following the key informant data are presentations of findings from the household and intercept surveys.

CHAPTER 6

ANALYSIS OF KEY INFORMANT INTERVIEWS

This chapter presents findings from the key informant interviews described in Chapter Four. The findings reflect the views of 111 key informants from diverse occupational and individual backgrounds, including Latinos and nonLatinos. I present findings according to question objectives from the interview schedule which corresponded to the theoretical model described in Chapter Three. Findings are aggregated across communities in order to highlight similarities; however, major differences are also noted. Numerical identifiers are found in parentheses at the end of each quotation and these codes can be matched with informant descriptions found in Appendix B. These findings guided later phases of the research.

Community

General Interactions among Latino Groups

Informants were asked to describe their communities in terms of geographic area and residents. Community descriptions were important because informants might view the local landscape, institutional structure, and social relationships differently from available statistical indicators. Informants' descriptions also highlighted subjective perceptions on the landscape, nature, and environmental risk. I begin by relating informants' narratives about Latino groups. Following this are descriptions of interethnic relations.

Latino informants were asked why their neighbors migrated to the study area. Informants typically responded with four explanations. For one, "it was the affordability of the housing that brought them" (507). As well, Latinos moved to Pennsylvania for work. An informant in Reading said:

> As you know, many people lost their lives in the September 11 attacks, but a lot of them also lost their jobs…And a lot of those people were Latin and when they lost their jobs, they tried to find a new job in New York but it was hard to find one. If they had families already in Hazelton, they came here to find work (410).

An informant in Hazleton commented, “A lot of people I know move here to get a job at the industrial park” (108). Others moved to the area because they perceived it as safer for their families: “I just didn’t want my kids seeing drunks in the street every day or guys getting mugged…. We moved here after 9/11 because we wanted a quieter environment” (218). Finally, Latinos, like many other in-migrants, moved to area for the natural amenities. One Salvadoran informant nicely summed up her reasons for moving to Allentown from the Bronx.

> I have three boys, I thought wow what a great place, it’s really green here and the air was even cleaner and I thought that I could bring the boys here. And you know when you go to New York, you feel like you have a film of dirt on my face and that’s how I felt in the place I lived in. And then you come here and it’s so nice. And then we went to that park... Medley High … the parkway... And I thought wow this is so nice and I could see myself bringing the kids. I thought Allentown was cleaner, the housing more affordable and the school district better than what I was used to in New Jersey (303).

This informant’s comments reflected general statements about attachments Latino residents felt towards the places they lived. Informants seemed to agree Pennsylvania was a good place to raise a family in comparison to former places of residence.

Because Puerto Ricans had the longest history in the area, they were often the focus of commentaries describing relationships among Latino groups. Puerto Ricans historically enjoyed a high degree of social status among the Latino population and their citizenship contributed to a complex dynamic among the different groups: “Actually, it’s the Puerto Ricans who have whatever little bit of power there is. They run the Hispanic Center and they’re citizens so they seem to have a little more sway with government” (108).

In contrast to notions of Latinos as a homogenous group, informants stressed variations among Latinos from different countries. In addition, they noted cultural diversity based on nativity, regional

differences within the United States, and within residents' countries of origin. Underscoring within group differences of two specific groups, a Mexican-American informant from Reading said,

> You have Puerto Ricans from Puerto Rico who come here and scorn the Puerto Ricans who grew up in New York, New Haven. They are not real Puerto Ricans. There is no one community. The Spanish of Puerto Ricans who grew up here speak it not good in terms of formal-correct Spanish. It is not even good in the terms of Puerto Rican Spanish. It is part of the transfer when you move; things get simplified as you move far away from your group. They will never fit into one group. People say get unified. But we have different causes (101).

Informants in Reading, Allentown, and Bethlehem described a wide cultural gap between different levels of social classes among Latino residents: "Those who can afford, they move [to the suburbs] as soon as possible" (112).

Informants involved with local businesses indicated Dominicans comprised the majority of small business owners. Most corner food stores (bodegas) and Latino restaurants were Dominican owned, even if they served Mexican food or pizza. According to informants, the Dominican group was rapidly ascending social class status. They also came to the area to buy and manage rental properties in the Latino sectors of the community. Informants considered Dominicans as falling between Mexicans and Puerto Ricans in social status.

As well, informants emphasized intra-group conflict. In particular, informants from the larger – and more diverse – cities of Reading and Allentown discussed how differences among Latino groups led to conflict.

> The Mexicans and Dominicans look down on the Puerto Ricans. They say that the Puerto Ricans had all the chances in the world because of their U.S. citizenship and they're not taking advantage of it. Puerto Ricans and Dominicans look down on Mexicans for taking all the jobs. Sometime people don't like the Dominicans because they are the landlords and the store owners. Look at the housing. There is a lot of

> unlicensed apartments. Somebody has a three story house, converts it into three apartments, rents it out, five hundred bucks an apartment. This person is making fifteen hundred dollars a month. That is slum housing and it is not licensed by the city. It leads to a lot of dysfunction in the community (104).

Some informants saw Puerto Ricans losing their historical social status and leadership positions. Industrial restructuring and Mexican labor competition resulted in economic insecurity for many Puerto Rican families. In the eyes of other Latino residents, new generations of Puerto Ricans were not taking advantage of opportunities based on citizenship. An informant in Allentown underscored perceived divisions in local Latino societies:

> The Latino community is very fragmented on many different levels. We're very fragmented and we don't agree on a lot of things. And that's a misconception by the general population that we're all together and we're not (310) .

Although the informant discussed conflict among Latino groups, his statement uses the all inclusive "we." This comment points to the occasional inclination among Latino residents to refer to Latinos in the aggregate. Despite various differences, Latinos share a common language, some of the same customs, and many of the same values.

The ways Latinos saw themselves in terms of identity was crucial to how they viewed other groups. There was often aversion to the "Hispanic" label, especially among Puerto Ricans. When asked their race and ethnicity, many informants often identified with their nationality: Interviewer: What is your race and ethnicity? Interviewee: I am Puerto Rican (401). Occasionally, Dominicans, Cubans, and Puerto Ricans identified themselves as Caribbean. Puerto Rican informants almost unanimously described themselves as a mix of Spanish, African, and Taino. Those with darker skin colors were also likely to identify as Black. This was especially true of Dominican informants from New York City. Such processes of identification further strengthened group ties and attachments to particular places in the city where each group lived.

Informants were less likely to discuss conflict between Latino groups in areas such as Scranton, Hazelton, Wilkes-Barre, and East Stroudsburg where Latinos were newer to the area, there were fewer Latinos, and the population was dispersed. A South American in Hazleton said, "We haven't really been here long enough to fight about anything among ourselves" (403). As well, "Anybody that arrives in this region can afford to buy a house anywhere in the nicest of neighborhoods. So, it is very dispersed throughout the region and there are less disagreements" (417).

Social Interactions between Latinos and nonLatinos

Relationships between Latinos and the larger community were strained in areas where the Latino population was growing fastest, such as Hazleton, Reading, Allentown, and Bethlehem. However, without exception, Latino and nonLatino informants perceived discrimination. A Puerto Rican said: "Bethlehem still has a lot of walls up, those walls will come down, but it's gonna take a long time" (607). Anti-immigrant events in Hazleton in 2006 were a topic of conversation for informants in all study sites. An informant in Harrisburg said Latinos "Do not feel welcome in Pennsylvania" (703).

Racial profiling was cited as a common occurrence. An informant in Allentown said "relationships between the police and [Latino] residents is not good, not good at all" (307). The lowest opinions of police were expressed in Bethlehem. Informants saw public services targeting the larger nonLatino population and overlooking Latino residents' needs.

As well, informants reported Latinos had little political control. One Bethlehem informant said that the "relationship between Latinos and City Hall in Bethlehem is 85% negative" (605). In some instances, Latinos have held public positions (e.g., Allentown); however, informants indicated the need for greater representation. From Reading to Stroudsburg, informants expressed discontent with lack of Latino representation on school boards. Informants gave explicit examples of school boards denying Latinos board positions. The Bethlehem School Board went to court twice in defense of its decision to appoint White members when Latinos thought they had won the elections. A Reading informant expressed her frustration that although 70% of the school district's students were Latino, there was no

Latino school board member. Reading informants also recalled a lawsuit which challenged the legitimacy of local elections.

Conflict not only occured between residents and government, but also between resident groups. Of all the study areas, Hazleton and Reading seemed to exhibit the greatest conflict among Latino and nonLatino residents. Reading informants described a survey used by a coalition of nonLatinos to express their concern about the influx of Latino residents. Latino informants perceived that nonLatino residents blamed the city's crime and economic problems on Latinos: "The City of Reading tends to be sort of a hub for newcomers and also tends to be a target of fear by established residents, particularly the White community" (102).

One informant explained the animosity of nonLatino residents was related to the "loss of manufacturing industries" and the "conservative nature of Pennsylvania-German culture" (107). A Puerto Rican, and retired Army officer said:

> There is a perception that the Hispanic people are mostly invaders…especially in the last two years when there were immigrations issues…. Many people say 'oh you don't belong here…go back to your country…your illegal….' They think because I am Hispanic and I look different from them that I am illegal (309).

Several informants expressed considerable dissatisfaction with their communities. A resident in Scranton said:

> Let me tell you something. On Saturdays it is Chinese Saturdays in the Chinese restaurants. Everyone is Chinese and they speak Chinese… And the American people love Chinese food. So one day we went to a Chinese restaurant and the Chinese people were talking in Chinese and there were many Americans sitting in the restaurants…. Everything was fine, but then me and my husband started talking Spanish and everyone just pulled a face… It was really noticeable and it really got me upset… The Chinese could talk in their language and no one would say anything but once we spoke Spanish it was like 'What are these people doing here? There goes

> the neighborhood.' So I would describe one of the biggest challenges is to create an environment that's more tolerant with newcomers here…. But I tell you my family will probably be long gone before that ever happens (212).

Constant feelings of discomfort take a toll on one's ability to adapt to a new place. Although residents, like the informant above, had important reasons for relocating to the area, these benefits did not outweigh the prejudice and inequalities they experienced.

Despite the prevalence of inter-ethnic and racial conflict, most informants failed to list it as a primary concern. Informants in Reading, Allentown, and Bethlehem described problems associated with crime, drugs, lack of employment, and poor housing stock. Although these problems were described relative to the community as a whole, they were seen as particularly acute among Latinos. Monroe County informants were most concerned about the commuting lifestyle, latchkey kids, and lack of ethnic relationships due to the low concentration of Latinos. Jobs were the major concern in Scranton and Wilkes-Barre.

Only the Hazleton informants said improving race relations was an important goal for Latino residents. In most cases, informants' comments suggested that Latino-nonLatino adversity drew residents together in some occasions despite differences among Latino groups. In turn, resident attachments grew stronger toward the particular area of town where the group lived.

Neighborhoods

Strained relationships between Latinos and nonLatinos materialized across the local landscape. Informants said Latino residents did not think of their community in terms that included the nonLatino population. Generally, when informants discussed nonLatinos, they were referring to native Whites. In turn, a form of Latino identity formed along the binary labels of Latinos and "everyone else" in the community. With the exception of Wilkes-Barre and middle class Latinos, most Latino residents lived in one section of the city and Whites, Blacks, and others lived in other areas. An activist in Bethlehem illustrated:

> The city decided that everyone would put up lights for Christmas. We like those big colored lights on the South Side and they [nonLatinos] wanted little White lights on the other side and we couldn't ever agree so there are colored lights to the middle of the bridge and then the White lights start. Looks like two cities (610).

Latino informants often did not think of their community in terms that included Whites. "Community" was limited to residents with similar cultural characteristics. In the presence of nonLatino aggression, and in Scranton, Hazelton, and Wilkes-Barre, and the Stroudsburgs, it was the Latino community. In Allentown and other places with larger populations, community was defined in terms of ethnicity: Puerto Ricans, Mexicans, and Dominicans. These groups often lived on particular streets or neighborhoods and did not frequently mix as discussed above.

As a result, informants in Bethlehem described their community as the "South Side" (608). By contrast, north Bethlehem across the Lehigh River was inhabited by Whites. For Latinos in Allentown, "Downtown" was their community where pizza shops, beauty salons, and bodega owners spoke Spanish. In Reading, the Latino section of town was downtown and was known as East Reading or "the Latin Hood" (105). "Main Street" was where Dominicans and Puerto Ricans lived in Hazleton. Scranton's Latinos lived on the "South Side" (308), an area that was once designated for Irish immigrants. A Latino leader in Allentown described these places as "micro-communities" (316).

In several cases, Latino sections of town were once wealthy sections of the communities where industrialists and merchants lived. However, key informants described a range of problems in these areas including crime, drugs, lack of employment, and poor housing. Although these problems were described relative to the community as a whole, they were seen as particularly severe among Latinos. Informants said many nonLatinos attributed the problems to deficiencies in Latino culture. Latino informants blamed a lack of quality public services and acculturation of Latino youth into a violent American society.

Even in sites with fewer instances of obvious prejudice (e.g., Scranton, Wilkes-Barre, East Stroudsburg, and Stroudsburg), there was little evidence of social contact between Latinos and nonLatinos. One nonLatino from Stroudsburg said:

> I spend the summer in a town outside of Miami where you see a lot of integration. Here, people [Latinos and nonLatinos] run the other way when they see each other coming down the street. I know people in some [neighborhoods] who think that if a Mexican were to move in, he would be followed by 100 more of his family and home prices would go down (502).

Physically separated living spaces meant few residents of either group collaborated in local events, religious worship, or even participated together in sports. The work-place was the most likely location of interaction; however, some blue collar occupations primarily consisted of a Latino workforce. The editor of a Latino newspaper said this:

> There are very [few] people that work, that have a day to day interaction with Hispanics…. For example, most of the people I talk to, who are American, are amazed because they see I am different to what they think…there are so many people that wake up and work at factories like hard working people…but nobody looks at them (101).

Participation

Nearly all informants said there was a shortage of Latino participation in local activities. Some barriers to participation evolved out of relationships with the larger community. Perceptions of prejudice and discrimination made it difficult for residents to trust institutions which appeared to maintain such injustices. A community activist in Scranton rhetorically asked, "…If I'm a young guy, why would I want to get involved [in the community] when the police stop me for having brown skin? They look at my skin and think I'm in a gang" (206). As discussed above, there have been many cases when Latinos have run for public office only to lose the vote or, as one former candidate remarked, "lost because they [the opposition] have too much power even though there are more Hispanics" (605).

As well, barriers to participation emerged from historical, cultural, and demographic characteristics. For example, some informants thought lack of participation was related to a general

distrust of government. Many Latino residents had inmigrated from countries with governments known for corruption and exploitation of their citizens:

> A lot of times when they lived in their country unfortunately a lot of these countries have corrupt governments. They sell millions, and millions, and millions of dollars to big people without anything, so it's coming from their countries that they just don't trust government. They actually see government as their enemy. A lot of the third world Latino countries, there aren't as many rules and regulations as there are here. And even to have the Latinos come out and vote, it's very hard for them. Most won't even come out and vote it's a very small percentage (107).

Informants' discussions pointed to cultural factors most evident in school participation. Education was one of the most important issues for Latinos (705). However, informants noted a lack of involvement on the part of parents at lower socioeconomic levels to be involved at their children's schools. Informants attributed this to the belief that:

> The school needs to educate the child and the parents sit back and watch this occur. That the parent does not get involved and does not bother the teacher... you know – 'let the teacher do whatever they need to do… I send my kids and this is all I have to do'" (612) .

Such beliefs may apply to other areas of participation in which residents allowed a few of their neighbors to dominate advocacy of important issues. It also highlights inconsistencies about the authorities or institutions residents trust. Many Latino residents were suspicious of their governments, but they completely trusted educators.

A well-known business owner in Easton suggested his Latino neighbors were not involved because they lacked permanent attachments to the community. He discussed the tendency of residents to have the ultimate goal of returning to their home countries:

> Well that is a common attitude… you say I am going to come here and my children will grow up here but you always dream about going to die in your country. I mean

> it's case by case… But generally I think it affects the manner that you feel rooted to a place. To care about that place you have to put your roots in that place and say that that is the place that you are going to live in (604).

This informant also noted the young Latino population in Pennsylvania had exhibited few instances of collective action in comparison to places with established populations (e.g., New York City). Some informants said the new population had little disposable time to become involved in collective issues: "Most people have two jobs, don't have transportation, they have kids…are they going to be able to go to these town meetings? The answer is no" (604). Related to this, an informant in Allentown thought lack of property ownership was the reason for lack of participation: "I don't think people have much pride. And let me tell you why…it's because many people don't own property" (303). She noted public officials frequently talked about more affordable housing when what was also needed was better quality housing. Property ownership, she argued, made people feel responsible and invested in their community.

Lack of participation was most often attributed to apathy. Noting apathy existed in all communities, not just where Latinos live, a Wilkes-Barre activist said residents needed to be educated in order to have a sense of community (216). Informants said residents tended to respond to the most immediate and most threatening issues and concerns. For example, a Puerto Rican leader said "When other groups organized over immigration, Puerto Ricans, the largest Latino population in the state, were often absent" (315). A young volunteer in Hazleton commented, "I think we have a big lack of community perception…. We don't say 'hey I have two bags of cement and I can help you fix that' because it is not affecting us directly" (415). This contributes to feelings of community disaffection.

Finally, many informants said there was a critical need for more Latino leadership. Although Pennsylvania has had small populations of Puerto Ricans and Mexicans for over a hundred years, the surge in numbers makes it a relatively young population overall. This new Latino population is

> ...still cooking. Slow, like cooking the beans and rice...It takes time and patience. We still are trying to think who we are as a Latino constituency and flesh out that

leadership. This does not happen overnight. There will be a lot of challenges along the way that we will have to deal with, that we are currently dealing with (603).

Although there were Latino leaders in each site, informants indicated leadership experience was often limited. In some areas, a cohesive set of goals failed to emerge because self-designated leaders were competing for positions of influence. For instance, in the area of Scranton, Wilkes-Barre, and Hazleton, Latino leaders accused each other of not advocating Latino issues strongly enough and pandering to White politicians. Claims that an individual was too assimilated (i.e., "too White") or not assimilated enough (i.e., not bilingual) seemed to punctuate ambitions for community influence: "[Name] is a school board member, but he doesn't speak Spanish so we don't look to him for representation anymore" (312). In other cases (e.g., Reading), leaders of a particular national origin had difficulty gaining favor among residents of other Latino groups as a result of intra-ethnic differences.

Despite informants' initially grim outlook on Latino participation, they also described times when residents came together. Residents have united behind several strong leaders for special causes. For example, Latino residents in Reading participated in one of the largest immigration marches in the Latino Corridor. The protest included Puerto Rican, Peruvian, and Dominicans marching beside the Mexican majority. In another case, Mexicans, Dominicans, and Puerto Rican business people united against a rash of robberies in Reading. When a policeman was murdered by a Latino, Reading Latino businesses collectively denounced the crime and organized monetary help for the policeman's family. A talented New York Dominican was the driving force behind these initiatives, although he has been unable to secure a nomination for public office.

Latino organizations were an important part of social life and local action in each community. Whereas other states with larger Latino populations directly provided services to Latino communities, Pennsylvania deferred this mission to Latino community organizations. A statewide Latino leader said, "If you ask me in Reading where you would go to help, it would be the Latino center, not really the government, the centers provide a link to the population" (705).

Some of the most active centers included: The Daniel Torres Latino Center (Reading), The Council of Spanish Speaking Organizations (Bethlehem), The Latin American Alliance of Northeast Pennsylvania (Monroe County), and The Latino Leadership Alliance of the Lehigh Valley (Allentown), and the Latin Cultural Diversity Center (Scranton). Some of these organizations were started in the 1950s with the arrival of the first major wave of Puerto Rican immigrants. Community leaders believed their constituents needed a place to socialize and a place to feel welcome in an environment hostile towards Puerto Ricans. The ethnic groups who managed these "community houses" were known as beneficial societies (e.g., the Puerto Rican Beneficial Society of Bethlehem). Retaining strong ties to their hometowns, they were welcome centers for friends and family recently arrived from the island.

From these origins, the organizations have made efforts to reach out to various Latino groups. They have provided services in Spanish such as health education, elderly assistance, housing information, immigration services, youth counseling, and AIDS awareness. As in the past, they provided recreation experiences, cared for elderly, and facilitated social networking. Several Latino organizations provided Internet services so residents could communicate with family in their home countries. Latino Chambers of Commerce provided business networking services and legal information. On several occasions, informants said Latino organizations were critical because government fails to adequately provide needed services.

Religious organizations were also important to informants' communities, although perhaps less important than in some other parts of the country (502). Informants said religious meetings were one of the only times when members of various Latino groups interacted socially (as I discuss below, sports was also an important unifier). Religious places provided welcoming locations to share food and spirituality. As well, cultural and political discussions often began during bible studies, charity activities, and community outreach. The pastor of a protestant church in Hazleton noted that Latin American churches frequently blur the line between politics and religion. Thus, church members discussed issues and concerns even when pastors or priests (who were often White) did not promote such agendas.

Finally, Latino festivals were a regular part of social life (Figure 6.1). Informants said attendance at such festivals was steadily growing with growing awareness and growing populations. Frequently, the major activity of Latino leaders was to coordinate the yearly festivals, which consisted of cultural and Roman Catholic objectives. For example, Bethlehem, Allentown, and Reading all have Boricua (Puerto Rican) Festivals during the summer. The Allentown Mexican Beneficial Society has a Cinco de Mayo festival to celebrate Mexican music, food, and history. Residents from all sites come together in public areas to celebrate Our Lady of Guadalupe on December 12. Although it is popularly known as a Mexican Saint's Day, the Madonna was said to be the "unofficial" saint of Puerto Rico as well (413). Festivals were often advertised in English and Spanish and included bilingual artists:

> You'll see [the Latino community come together] a lot in festivals and when they have the Puerto Rican Parade or Cinco de Mayo festival. Other than that I think pretty much each community pretty much stays to themselves except if there's something like a cause that will bring them together, and then they pull together (615).

In general, informants said Latino residents did not actively participate in either Latino or community-wide initiatives. Numerous barriers, including apathy and economic constraints, prevented participation. Yet, despite cultural and class differences, some forms of interactions occurred and will undoubtedly impact community and Latino well-being in the long-term.

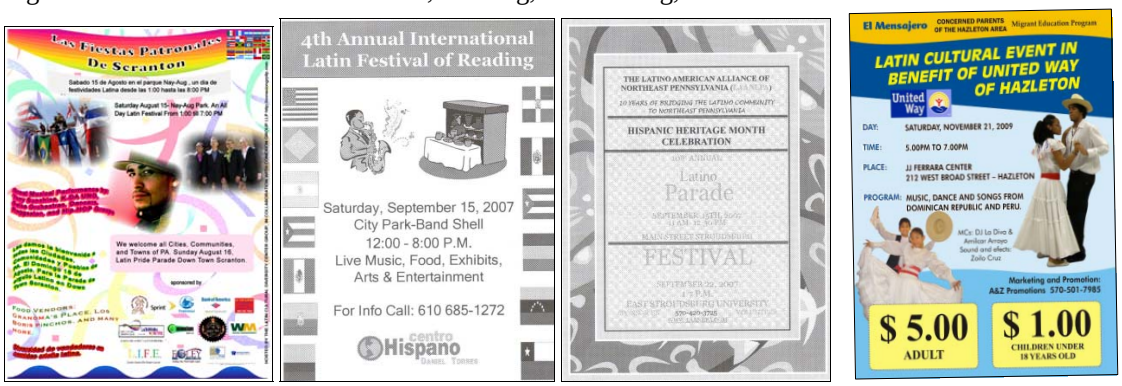
Natural Resources

Places and Activities

Latinos in our study sites were aware of various natural areas. Some of the areas mentioned by informants included: French Creek State Park and Green's Mill in Lehigh County; Hill to Hill Park and South Mountain in Northampton County; Reading Lake Park, Hawk Mountain, and Blue Marsh Lake in Berks County; Broadhead Creek, Tobyhanna State Park, and Smithfield Beach in Monroe County; and Community Park in Luzerne County. Latino residents visited urban parks such as Saucon Park

(Bethlehem), City Park (Reading), Na-Aug Park (Scranton), and Jordan and Cedar Creek Parks (Allentown). These urban parks were heavily used by Latino residents and used less by nonLatinos.

Figure 6.1. Latino Festivals in Scranton, Reading, Stroudsburg, and Hazleton



A favorite place was not necessarily a frequently visited place. Beltzville and Blue Marsh Lake were both identified as special places, but may have been visited only once a year and during summer holidays. As a result, no state or federal property was listed as a frequented destination. When asked if he and his family visited state lands, one informant in East Stroudsburg said, “We only go there [Tobyhanna] during vacation times” (506).

In addition, informants rarely mentioned any State Forests or Game Lands, although many existed in the area. Another informant said, “The ones that go hunting are only the very wealthy; they’ve probably been here for awhile” (505). Despite this, state and federal land managers perceived an increase in Latino park users on public lands: “It’s really important that we understand this better because every year there are more and more Hispanics using the [Delaware Water Gap] Recreation Area and frankly we don’t know their needs or how to deal with issues that may be important to them” (508).

Favorite places usually included a water body – i.e., public pools or beaches. Facilities were very important to informants in terms of amenities and maintenance. Latino visitors sought out places with sufficient parking space, picnic tables, potable water, concessions, and playgrounds. Informants said safety was a priority because Latino recreationists nearly always participated in activities with their families. Distance from home was also important. Latino residents were unlikely to travel far to visit a particular park. Finally, informants said Latino visitors tended to visit parks where other Latinos visited.

In such places, they felt more comfortable being around “people like themselves” (314). Some of the best known places were given Spanish names, such as “La Playita” (Beltzville State Park), “La Laguna” (Blue Marsh Lake), and “Parque de los Patos” (Cedar Creek Park). Some informants were unaware of the location’s official name.

Latino recreationists generally enjoyed many of the same activities in rural area parks (i.e., state and federal natural areas) as in urban parks. There were also important differences. Advantages of rural parks over urban parks were “better fishing and more natural [features]” (416). Latino churches were more likely to perform deep water baptisms in lakes and rivers of rural places than urban places (Figure 6.2). Although rare, some Latinos gathered specialty forest products such as mushrooms and herbs in state forests and the Delaware Water Gap NRA. In some cases, informants related stories of women who visited area woodlands to look for plants to transplant to a pot at home (a common activity in Latin America). As well, Latino festivals were usually held in urban parks. Such locations were an affordable way to enjoy activities with friends and family, live music, food, drink, and games.

Unlike many nonLatinos, who visited parks frequently, for shorter periods of time, and for a specific purpose (jogging and walking with friends or family), informants indicated Latinos went to parks mainly on weekends (particularly Sundays), in larger groups, and often remained there for up to five hours at a time. The most popular activities, as reported by informants, were playing sports, fishing, listening to music, socializing, and taking the kids to play. Although preferred activities were often similar among nationalities, the ways they took part in activities varied. For example, picnicking, especially grilling, was a favorite activity.

Swimming areas were important to informants. As is the case of Beltzville State Park, swimming in the pool was preferred over the lake due to fears about pollution. If a pool was not available, as in early spring in Saucon Park, children swam in creeks and rivers. Playing music was especially important. While sporting activities were important, they tended to be preferred by males and children. Park managers said females and older visitors could often be found around the picnic area. While men often grilled, women were often given the role of preparing the rest of the meal. Although having the option of food

concessions was important, visitors often brought food and beverages to parks instead of purchasing from authorized vendors. This was more affordable for large group visitation and picnics were also an opportunity to share food from visitors' national cultures.

Linked to passive group activities, informants voiced a strong preference for warm-weather park visitation. Latinos heavily used parks starting at the end of the school year and, especially, during Memorial Day weekend. Informants commented that Latino visitors strictly avoided parks in cold weather: "Once it starts getting cold, you won't see us outside" (213). When asked if anything would attract Latinos to visit parks in the winter, informants said structured events such as Christmas celebrations, patron saints days, and cultural festivals which mirror winter activities in their home countries would be popular.

Informants also said Latinos did not participate in activities such as hiking, camping, rock climbing, and boating. When asked if youth participated in these activities, some informants said that those Latino youth who participated "Probably live in the gated communities" (511). This informant explained youth who lived in gated communities were more likely to participate in such activities because they were middle class. He said they were probably third or fourth generation residents and shared the interests of nonLatino friends in long distance hikes.

Benefits and Motivations

When asked if Latino youth participated in programs such as 4-H or outdoor camps, one informant from Monroe County suggested such programs had little appeal for Latinos (515). From his perspective, 4-H programs often included activities like horseback riding and nature walks. He argued such activities required investments of economic resources, transportation, and parents who could drop off and pick up their kids after work. With few exceptions, such programs did not actively reach out to Latino youth so there was little interest in them.

One exception to this opinion was Compass Academy in Allentown. This program focused on environmental education and nature appreciation for inner-city youth through hunting. The director, who was raised in urban poverty, said hunting offered tangible benefits, enabling kids to learn about wildlife,

conservation, ethics, and responsibility. Whereas other environmental education programs were often limited to teaching environmental knowledge, his program provided an experience by which young participants could maintain an active interest in nature throughout their lives.

Natural resources managers mentioned two other exceptions – programs offered by the environmental education centers at the state facilities of Nolde Forest and Jacobsburg. Both places were managed primarily for educational purposes rather than recreation. Latinos did not tend to visit the sites on their own; however, both centers had programs which provided transportation to inner-city visitors. The Urban E program at Nolde and EcoCamp at Jacobsburg provided transportation so that inner-city kids could learn about the environment. The managers at both facilities argued that government programs were critically important for urban populations to be exposed to nature-based experiences:.

> Since we started doing this, four years ago, we now see Hispanic families. We see black families here. Ten years ago, it was pretty much whites. There were no people of color in here at all, so there's been a change to who's using the property (109).

Informants mentioned other benefits of outdoor recreation. Participation was linked to country of origin. Caribbean informants, in particular, Puerto Ricans compared their desire to enjoy open space in the U.S.with an appreciation of nature in their homeland. This applied even to those who had never visited the places their families had immigrated from. Knowledge of and feelings for these places were communicated through interactions with friends and relatives. A university student from Spanish Harlem said about visiting a nearby state forest: "I think about the beach in Puerto Rico. My grandmother has all these pictures of the beach in her house. That's what we [Latinos] like, the beach, palm trees, open spaces" (205). Affirmation of cultural identity was an important factor in how the respondent thought about nature.

One of the most prevalent findings was the use of nature as a social experience. Fresh air, sunshine, trees, and flowers were meant to be shared, reflecting preferred activities of picnicking, sports, and outdoor parties. There were several reasons for this. For one, informants regularly noted open green spaces functioned to recreate plazas, markets, and other social places of their homelands. Much like a

small city park, trees in a Latin American central plaza provide shade for merchants to sell their wares and for "residents to socialize after church on Sunday" (617). An informant from Bethlehem said:

> The trees and the mountains make me think of my family's home in the country in Puerto Rico. We spend a lot of time outside, just eating and relaxing, and spending time with your kids. This is not possible to do here unless we go a park that reminds us of the countries we come from (601).

Parks (especially those considered "Latino parks" such as "The Jordan" in Allentown) were cultural spaces where visitors could enjoy traditional food and activities. Specific activities tied to homelands included lying in a hammock, grilling, listening to music, and playing sports. This was relevant to multiple generations of Latinos, immigrants, and non-immigrants. Picnicking went through several phases, from appetizers and snacks to the main meal and then desert. Preparing the meal was a principal form for socialization among women. Park visitation was more than just an activity; it was an important part of maintaining ethnic identity, solidarity, and practicing cultural norms. Reflecting this, a resident in Reading suggested parks have the opportunity to bring the community together as he perceived they had done in areas of New York City:

> I grew up in the Bronx and I remember every summer when the whole block would get in a bus that my dad rented and we would go upstate. These were some of the best times I remember as a kid. That's what parks do – they brought us together as a community and made us happy to be spending time together as neighbors, parents, kids, grandparents, and even the pets! We are a very social people and so that's [spending time together] very important to us (112).

In particular, Monroe County informants described the Latino population as spread out with diffuse social networks. These youth had fewer opportunities for social engagement and cultural exchange. Informants were concerned their children were being assimilated into the larger culture without fully appreciating their ethnic backgrounds. Informants said outdoor experiences could mitigate this trend.

Many informants described Latinos as "outdoor people" because warm weather in their home countries allowed for much of daily life to be spent outside. An informant in Reading said, "We are tropical people and we come from places where we spend much of our time outside…. That is why we always need sunshine and warm weather" (117). Comments such as this extended across informants of different age groups. A student said this:

> I think they [parks] are very important, because where a lot of Latino's come from we're used to open spaces. Well I can speak about the Dominican Republic with beaches and just nature in and of itself, so I think a lot of Latino's that I know we'll go to the park and we'll just have a gathering there just to get out of being in a small cramped house or apartment (514).

As well, family was an important part of Latino park use. Informants noted many Latino park visitors have demanding jobs which forced them to work in physical capacities, work two or three shifts, and/or commute to New York City. They had little free time to spend with family. For Latinos, the idea of the nuclear family was different than for many nonLatinos. Close family included third cousins and godparents. When they had time for leisure, parks were convenient for use by the family members of all ages and various interests:

> The majority of Spanish-speaking people are still involved in factory work and in this region that means 12 -hour shifts. So if you're pulling a double 12 hour shift and you're being asked to work seven days a week, there comes a time when, my God, you better spend some time outdoors or you're going to go bananas. So it is part of what makes a very difficult part of labor-intensive lifestyle livable. It's the place to go and socialize. It's part of what you do as a family. You just go outdoors (411).

Informants noted this population had positive attitudes regarding the importance of physical activity. In particular, Latino men enjoyed the camaraderie of sports and participated in soccer and baseball as outlets to alleviate stress. Parents took their children to parks so they could blow off steam and stay healthy. Informants said sports facilitated participation in multiethnic groups. American football was

most commonly mentioned as attracting both young Latino and nonLatino males. Soccer attracted mixed groups of participants as well, including pan-Latino groups. In particular, children were involved in athletic activities involving participants of diverse backgrounds. According to informants, parents supported this form of interaction. A Dominican baseball coach in Easton said:

> One of the things that is helping a lot of people get over this fear of change in demographics is baseball and softball and soccer. The Anglo kids are being introduced to a whole other level of soccer, their game is being brought up tremendously, and that initial fear is gone because of the level of game. So once you get over your fear and fright all of a sudden you realize, wow, this kid is Little League World Series material. So all of a sudden they're a lot more welcome (618).

Informants were asked what it would mean for Latinos if they no longer had access to parks. The overwhelming response was that loss of access would be a great loss. Despite problems with crime in local parks, they were an important part of residents' lives. Although state parks were less visited, they were important during several times a year (e.g., Memorial Day, summer weekends, and July 4th) as a location for a church picnic, a family reunion, and playing sports. Participants in Reading and Bethlehem noted if parks were to close, localities would experience increased crime and violence: "These young guys need a place to cool off. You close parks and you won't be happy with what you get…. You're going to see more crime because they will have no place to go and nothing to do except make problems" (116). An informant from Wilkes-Barre said, "Eliminate the parks, and we'll leave, that would be a very, very effective way of getting us to move on" (417).

Barriers and Constraints

Although parks were important for many Latino residents, informants from all study sites noted a large proportion of residents did not take part in park activities. Similarities as well as differences existed in visitation barriers concerning state and local parks. Factors such as lack of time and disposable income created barriers to visiting rural places (and other natural areas not in the vicinity of residents' homes). An informant in Reading said, "They work hard every day and just want to drink beer and watch television

on Sundays, they don't even go to church" (111). Another observed, "A lot of people here are unemployed and don't have a car or can't afford to drive for a half an hour to a park" (404). Lack of transportation was also important; although as one informant said, "someone we know has a car and so when we go [to a state park], we all get into the car and so it's not a big deal" (513).

Constraints for women were often different from those of men. An informant in Wilkes-Barre said she did not have time to go to parks due to child-care responsibilities (407). As well, informants said that because much of Latino culture is patriarchal, mothers and their children may not participate in outdoor activities if the father did not go to the park. This mostly held true for state parks, although it somewhat applied to local parks as well. One employee of a local parks department observed:

> In many of these families, the dad works during the day and the mom might work at night. We try to get these kids outdoors for exercise but their moms tell us they can't go until the father gets home at four. But the father won't let the kids out the door because he wants to rest and not worry about the kids even though they would be with us (215).

This quote also suggests that, other than the classroom and close family members, parents may feel uncomfortable with outdoor programs taking care of their children.

There was often a lack of interest and knowledge about parks, particularly state parks. Informants said Latino residents frequently lacked information about where to go and possible activities to make traveling there worthwhile. Informants said many Latino residents were unlikely to look on the internet for information about state parks, although they used the internet for other activities such as communicating with relatives. Informants also explained that older individuals were more likely to be interested in parks than younger people for two reasons. First, older people were more likely to come from rural backgrounds in which they have a greater appreciation for the outdoors. Informants said younger people from Santo Domingo or New York City did not value parks as much: "I can't get my kids to stop playing those video games" (110).

Second, informants said younger generations were involved in so many other activities they had little interest in parks. However, when they were asked to describe activities of interest besides park-based activities, informants frequently mentioned other outdoor behaviors. Some of these included working on their car, washing the car, sitting on the front stoop of the house, chatting with neighbors in the street, planting flowers, and gardening. Women often planted herbs that were important to ethnic foods or home remedies. Reflecting claims that Latinos were "outdoor people," Latinos spent a large portion of their time outdoors (during warm weather), but perhaps not in parks and similarly designated outdoor areas.

Lack of maintenance and crime were described as the foremost barriers to Latinos' full enjoyment of urban parks. Maintenance was primarily a problem in Bethlehem, Hazelton, and Reading. Each of these sites only had a part-time parks manager. Informants said the pool at Saucon Park was consistently late to open for the summer and was often closed for repairs – both a major detraction for Latino enjoyment of the park. Based on two years of observations at various times of the year, Reading's City Park was usually unkempt – the grass was not mowed and the restrooms seemed always to be closed.

Although informants suggested urban parks were more frequently visited than state parks, they also said residents often stayed indoors due to urban crime. An informant in Reading who lived near City Park said she always returned from the park before dark because drug dealers and addicts were in the park at night. Another Reading informant said, "I will never go to City Park except if there is a festival" (116). An informant from Allentown noted that parents prohibited their young children from visiting local parks because of the crime:

> We're concerned. Across the board the Latino community is used to space, wants green places. So when you come and throw us into Allentown, downtown Allentown, because of lack of funding, because of drugs, crime, [park] quality is a big concern. This is why we [Latinos] have no parks (315).

This quote suggests that, due to crime and poor maintenance, Latino residents felt they did not always have access to parks although facilities were present in Latino neighborhoods.

According to informants, new immigrants were less likely than other Latinos to visit state or local parks. Informants thought this may have to do with work schedules and unfamiliarity with park locations and activities. As well, park visitation was not a common activity in many Latin American countries. Finally, immigrants appeared most likely to work and take part in leisure experiences only among other Latinos. Such isolation was likely to reinforce misperceptions about the surrounding social environment.

Although generally not considered a significant barrier, informants said language had some effect on park usage. English-speaking Latinos appreciated information in Spanish because language signified a welcoming environment. Immigrants were most affected by a lack of Spanish language information about park activities and rules. One informant related a story about a Spanish-speaker who displayed a driver's license to an official instead of a fishing license. Most Latin American countries did not require fishing licenses.

Some informants described constraints as tied to country of origin, as were benefits and motivations. For example, activities such as camping and hiking represented the poverty left behind in their origin countries for many immigrants and residents of lower income levels: "My father worked in the cañales [sugar cane plantations]. He was already working hard to survive and so going to pitch a tent is like working hard during your time off" (305). For some, the immigrant dream was to not have to make a living from the land. Recreation and leisure values were linked to participating in a material culture that values cars, stereos, and televisions rather than using a fire to cook and pitching a tent for shelter. Other informants mentioned the danger of outdoor recreation in Latin America. Due to a lack of vigilance by authorities, an adventure in the countryside could lead to robbery or death.

> I have a friend from a city in Mexico, and she is so scared of taking her kids to like a forest because there are no people. And if there are no people, then no one hears you scream, like in the movies. So, her kids have never been to these places, they only go to the basketball court here (110).

Most informants supported enforcement of park regulations. However, occasionally informants pointed out that some Latinos distrusted authority figures based on negative experiences in the U.S.or

their home countries. For some, park managers were considered oppressive in their enforcement of park rules, particularly related to noise levels of music and prohibition of alcohol. Referring to one incident, a Puerto Rican in Bethlehem said, “The music might have been loud because we like our music, but he [official] had no right to talk to us that way” (613). In addition, informants noted immigrants with low educational levels often did not understand the role of park managers who were viewed as associated with immigration services.

It is important to note very few Latino informants reported discriminatory treatment by park managers. Despite this, several park managers who participated in these interviews expressed blatantly racist viewpoints. Unsurprisingly, these managers were unwilling to have the interview recorded for fear of reprimand; thus, identifiers were not used here. This quote paraphrases the manager of a park frequented by Latinos: “It seems like Blacks and Hispanics are the ones always causing problems because they drink too much and start fighting.” By contrast, he said, Asians were more responsible visitors. As well, several managers insisted Latino park visitors lied about not understanding English when approached for violating park rules. Although this may have been true in some cases, the general assumption was probably unwarranted considering miscommunications caused by language and cultural differences as illustrated above with the account about the fishing license.

Such comments were related to one of the most commonly cited barriers to Latino enjoyment of natural resources – feelings of discomfort caused by prejudice. As described above, prejudice and perceptions of discrimination were common in informants’ communities. These local interactions were reflected and reinforced in outdoor experiences. Local constructions of identity, social position, and residence patterns impacted how Latino residents viewed public natural areas such as parks and forests and their right to enjoy such places. With few exceptions, informants perceived prejudice and hostility in public places. In turn, Latinos tended to view themselves as excluded from using certain natural areas.

Just as local social interactions materialized in “Latino” and nonLatino sectors of the town, such relationships created Latino parks and nonLatino parks. Ironically, residents gave some Latino parks Spanish names suggesting an acknowledgment the parks were linked to Latino neighborhoods. For

example, “The Jordan” was known as a “Latino park” in Allentown. Saucon Park was a “Latino park” in Bethlehem. However, these places were also known for crime and lack of maintenance. One informant said the poor conditions of the park near her house illustrated how little local authorities thought of Latino residents. She said that while she felt uncomfortable visiting parks in the White middle-class part of the city, she perceived such parks as safer and more aesthetically pleasing:

> You can see a big difference between the parks here and the parks in West Reading and I think that difference is a sign of how the city thinks about us. The police come around all day telling us not to play our salsita [a type of music] loud like we like it, but no one from the city will cut the grass (116).

When asked specifically, most informants had not considered the possibility of forming neighborhood committees to clean and maintain parks. Park management was considered a government responsibility. Informants in Reading and Bethlehem argued they had been discouraged by local authorities through regulations or threats when attempting to organize activities in the past. This resulted in apathy towards initiating citizen park clean-ups.

As well, informants said certain areas of state parks were defined by race. For example, a park manager observed that Latinos would visit one picnic area, Asians would go to another, and Blacks were found in a third area. Park managers and Latino informants alike commented on frequent complaints from nonLatino park visitors. A Dominican informant in Allentown said, “People [nonLatinos] don’t like it when we hang hammocks from trees because [they think] it hurts the tree” (316). Informants felt some nonLatino visitors were threatened by large groups of Spanish-speakers and Latin music:

We [Puerto Ricans] like our music and we want everyone to know. On the island everyone has their favorite music playing so that all the neighbors can hear. The neighbors say, ‘Thanks for the music, it’s nice.’ But when you go to places like Beltsville, that’s a popular one for the Latino community, we realize that we can’t have the music as loud as we like and other groups aren’t friendly to the music and things we like to do. And so Latinos don’t want to take advantage of these areas (306). In two state parks, fights reportedly erupted when Black gang members and Latino gang members entered each other’s respective

territories. Besides the direct significance of race relations in parks, this phenomenon was interesting in that gang members visited parks with their families despite their violent nature. The phenomenon of dividing a park according to race did not seem to be as prevalent in urban parks.

Figure 6.2. Some Latino park activities. Clockwise: Dominos, Hammock, Baseball, Baptism, Picnic

According to informants' discussion, feelings of discomfort occurred in different ways for different Latino groups. A Puerto Rican informant said Puerto Ricans were more likely than other groups to visit natural areas with high concentrations of nonLatinos: "Because we are citizens by law, we are not intimidated by White people" (408). Other groups limited their activities to the "Latino" areas. However, Latino informants born in the U.S. tended to express greater feelings of discomfort and perceptions of prejudice in outdoor areas. One Puerto Rican informant noted that Latinos like himself with dark skin complexions more strongly perceived unwelcome reactions by other park users: "When we go to a park and hang out with friends, the White people there, families and what not, think we're a gang or something" (218).

Environmental Perspectives and Behaviors

Values and Meanings for Nature

Conversations with Latino informants suggested they had diverse meanings and values for the natural environment. Some informants described pristine wilderness as truly natural. One informant said a walk around the city was interaction with nature. Others included parks and gardens. Several informants identified the landscaping at local amusement parks as a natural setting. A minority of informants said Latinos did not think about nature at all, especially if they came from urban areas or were impoverished.

In several cases, Latinos were described as having an anthropocentric perspective of nature. Resources were meant to be used, whether in cultivation, gathering, or recreation. According to informants, this perspective resulted from livelihoods dependent on natural resources: "Because many come from rural places, they understand the environment as a resource to that exists to satisfy human needs" (616). Another informant explained there was a mutual relationship with nature. People used natural resources for human benefit but, in turn, needed to care for the environment to continue using it. A young store owner said:

> I think as a human race, you need natural resources, not just natural resources but nature to feel better…. Like I know it sounds really corny but if you are stressed, a walk around the park relaxes you. It makes you reflect on life. When you reflect you have a greater sense of clarity of what you're doing, where you're going, and where you've been (408).

While most informants made statements reflecting this sentiment, two informants proposed, "We [humans] should just be banished from the environment" (205). Comments such as these suggested a distinct separation between people and natural resources. Both informants making such remarks were university students, suggesting some degree of assimilation and urban-centric values. This attitude may also have been linked to interpretations of environmental attitudes learned in school.

Similar to commentaries about recreation motivations, anthropocentric values were strongly linked to cultural identities. In particular, informants said interacting with nature was an important part of being Latino. The store owner from above continued by saying:

> To take a walk around a park is so calming, it takes you away from the hustle and bustle of the day and it brings you back to your roots. Even if your roots are being from a tropical island, nature just calms you. I think it affects the human soul, as corny as that sounds (408).

The importance of Latin American central plazas and outdoor patios in Latino nature experiences suggested social meanings for nature. Comments about such places suggested the idea that human communities were inextricably linked to natural resources. Similarly, a Mexican activist claimed that because her community in Mexico was rural, residents were able to interact with nature more than in Hazleton, her adopted community:

> People walk to the job, to the field, we do not have so many of the cars and we keep the window open all day so that the air can come in and keep us cool. In my home town, the life moves very slow compared to here -- we appreciate our surroundings more (411).

Reflecting this, an Allentown educator asserted, “We are probably more connected to the land than many White people because so many of us come from rural areas” (311). This informant’s claim was more important than the content of the statement.

As well, several informants in the Poconos suggested the value of nature was found in its association with a healthier lifestyle. Many of these informants had moved from New York City. Informants from New York City described Scranton as a “small, rural town” that made them feel closer to nature. One Latino community volunteer of Dominican descent described how he valued his environment by contrasting it with what he considered the antithesis:

> I didn’t want my kids growing up seeing a dead body in the stairwell like I did. Here [South Side of Scranton], they can play in the street with other kids, clean air,

> there's Connell Park a couple blocks down, good schools, a nice house with a yard… About ten years ago my cousin visited and then he moved his family here and that's how the population grows. But it's interesting to think about that we move here because it's a nice place to live, not just following the jobs like our parents did in coming to this country (218).

This informant valued the environment from a localized perspective. Moreover, he discussed the environment within the context of other local benefits.

Although many informants described passive interactions with nature, such as walking, some discussed how more intensive interactions helped them to appreciate a cultural link with nature. For instance, a recent Spanish newspaper photo showed an Allentown resident proudly showing off a prized cabbage (Figure 6.3). The caption read, "It's an art that is in his blood... [growing vegetables] is part of the Latino kitchen." Similarly, a Puerto Rican community organizer in Bethlehem said:

> I have a small garden that I work in every day during the summer. I have, you know, tomato and chile. But I also have a small lemon tree because it reminds me of my parents who came here from a small farming village in Puerto Rico so long ago. It reminds me of who I am and I teach my kids that (604).

The director of Camp Compass (Figure 6.3), mentioned previously, said hunting influenced his Latino camp members to think about their Native American ancestry. He said it was unimportant if the association was real or imagined: "Respectfully taking something from the land builds pride because they think about how their ancestors lived off the land hundreds of years ago. And if you want these kids to respect the land, they have to learn to respect themselves" (306).

Many of the comments above revealed a tendency to romanticize Latino meanings and connections with nature. In my personal reflections after many interviews, I wondered if informants were telling me what they thought I wanted to hear or if their remarks were entirely genuine. Maybe it was a combination of both (see Chapter Four, "Reliability and Validity"). Regardless, the immediate response

of a large majority of informants indicated Latinos valued nature or thought they were supposed to value nature.

Environmental Attitudes

Positive values for nature did not always translate into pro-environmental attitudes, concerns, and behaviors. Overall, informants said Latino residents were not very concerned about the environment. Attitudes and concerns were strongest in Hazleton and Reading. Informants discussed residents' interest in environmental issues least in the Stroudsburg, East Stroudsburg, and Easton. A number of factors stood out as challenges to recognizing environmental problems and efforts to mitigate those problems.

Several Latino and nonLatino informants discussed sociodemographic barriers to environmental awareness. Although economics was mentioned, informants most often discussed education as the most important factor in determining Latino environmentalisms. For example, a Latino informant in Reading said this:

> Informant: I think that one has to have a certain level of education to think about these problems related to the environment.
>
> Interviewer: So a newly arrived immigrant with a sixth grade education can't be aware of pollution or other kinds of environmental degradation near their homes?
>
> Informant: Not unless they have some exposure to environmental knowledge beforehand. But most of our recent immigrants don't have that and they're working three jobs and just surviving (113).

According to comments like this one, residents were too busy with work, looking for work, kids, school, drugs, legal status, and myriad other concerns to be worried about the environment.

Despite comments such as this, several informants pointed out a lack of environmental awareness from highly educated individuals as well. To illustrate, an informant in Stroudsburg said, "I disagree with the education hypothesis…there are a lot of well-off Hispanics here who could care less about the environment" (501). In addition, arguments that environmental awareness was determined by education may have reflected biases of key informants who were often well-educated and highly acculturated to

mainstream perspectives. For them, pro-environmental attitudes may have corresponded with widespread contemporary issues about, for example, global warming, recycling, and animal extinction. As such, some informants interpreted a failure to discuss global warming as a lack of environmental awareness.

Despite this possibility, education was still clearly important to Latino environmental attitudes and behaviors. Park managers and educators noted that some efforts were made to introduce Latino children to environmental education. Several parents said they learned about the environment from their children. For instance, an activist in Allentown contrasts environmental concern of the general Latino population in her community with that of younger generations:

> When there are changes in climate I hear people say things like, "Oh my God, that's global warming." But I don't know how deep they are into that, you know. I can tell you from my daughter, I turn on my car in winter to warm up my car and my daughter gets annoyed; she's only eleven and she says, 'Mom you're contaminating the environment by turning the car on before we go'" (309).

A principal in Reading noted a new public school will focus on agriculture and environment. A number of seats will be reserved for inner-city students.

While lack of formal education was the most common explanation for an apparent widespread lack of concern, Latino informants mentioned other possible reasons for lack of environment concern. First, informants argued Latino residents rarely received information from print media or English-speaking television. Instead, they subscribed to satellite services which provided Spanish language channels from North American and Latin America. These television channels failed to give attention to what informants considered important local issues (such as the environment). One informant in Hazleton said, "All they cover are stories about sex, violence, and soap opera stars because that's what people want to watch …." (401).

In addition to educational level, previous exposure to environmental problems emerged as a factor in shaping environmental perceptions. A Puerto Rican in Reading said she cared about environmental issues because she had been interested in several environmental movements when she

lived in Puerto Rico (116). This informant had published an article in a local Hispanic newspaper about individual actions Latinos could take to mitigate global warming (Figure 6.3). Another informant said he was concerned about pesticide poisoning based on his experience as a migrant farm worker: “I worked with chemicals for much of my life and I know how dangerous this stuff can be (218).

Some informants suggested perceptions of proximity to harm was important in forming environmental interest. Informants thought less educated and poorer Latinos tended to focus on environmental quality within the immediate vicinity of their homes. Informants in Reading and Allentown cited urban decay as being linked to crime and youth problems. An activist in Bethlehem said, “I became involved in the neighborhood leadership because someone had to…. It is important to take care of our neighborhoods because if we do not, the gangs will” (607). This activist had organized lot clean-ups and graffiti cleaning campaigns. In Reading, a local environmental group was solely focused on issues close to home such as abandoned factories and street litter. Some of these informants linked environmental justice with making “nonLatino” parks more welcoming to Latino visitors and improving “Latino” parks. A highly respected Latino leader from Allentown said this:

> Everyone deserves a place with fresh air and trees where you can relax with your family, do a picnic…. We either need to make places like Beltsville more appealing to Latinos, improve the areas we have, or make new ones that are safe for our children … if we had better parks for minorities, it would show that we as a society care about them (305).

Informants such as this one reflected on proximately relevant experiences as the basis for environmental concern. However, such experiences may limit more generalized awareness of issues and environmental behaviors such as recycling that one would practice on a daily basis.

Finally, informants said Latino attitudes toward the environment simply reflected general attitudes in the broader community which was unconcerned and environmentally inactive:

> There are few people in general that care about the environment, whatever their ethnicity. In specific in the Latino community, the environment is not thought about

> and their main concerns are money and wealth. I feel like there are many layers, the ones at the top are the business owners that care only about prosperity for their business and then the ones at the bottom are the workers that care about paying the rent, taking care of their children etc. Another issue is that Latino politicians do not emphasis the environment as some of their priorities. Basically the attitude is 'the environment – what's that?' (302).

These informants seemed unaware of some strong pro-environmental activities by their local governments and environmental organizations. For example, Allentown was involved in tree-planting campaigns, park clean-ups, and recycling (304). As well, the mayor of Scranton and government of Berks County were involved in the creation of open space.

Environmental Behaviors

Conversations with environmental activists revealed an extremely broad spectrum of environmental issues in each site. Quality of housing and crime were problems in Allentown, Reading, and Bethlehem (305). Urban sprawl and loss of open space were major issues of concern in the Lehigh Valley (115, 317). Toxic emissions from a landfill were discussed in Hazleton (203). In Reading, structural problems in schools and housing complexes were described as causing a wave of cancer cases (115). Also in Reading, toxins were known to be leaking from the former site of a battery factory (115). Air pollution was a major issue for environmentalists and public health officials in the region's two largest cities, Reading and Allentown (115, 317). Environmentalists in the Poconos referred to water pollution and residential sprawl (516).

Informants were less likely to talk in detail about environmental attitudes than meanings for nature. In turn, they were even less likely to talk in length about environmental behaviors. Despite some informants' observations about the importance of the environment, Latino leaders generally focused their work on issues they perceived as being of greater concern for Latino residents, such as education, health, and economic development. A statewide informant said even immigration was of tertiary importance to Pennsylvania Latinos because so much of the population had citizenship. Although they recognized the

importance of environmental issues, community leaders did not bring the environment into community. A Philadelphia lawyer and advocate for a national Latino organization said, “We don’t even touch environmental issues because that’s the last thing they need to think about...we need to be concerned with relevant issues that more directly affect them” (706).

Informants said Latino residents recycled because the municipalities had mandatory recycling programs and pick-ups. However, with few exceptions, Latino residents were not actively involved in the same environmental issues that interested the nonLatino White population. A representative of an environmental organization with offices adjacent to a “Latino park” said, “I know of some Hispanic members, but I would say that in general you won’t find residents from here in the downtown area participating in any of the programs we have” (115). When asked if the organization had targeted recruiting to underserved groups, the informant replied, “We try not to treat people differently because of skin color or religion or whatever. Those who are interested can look at our web page or call and we’ll be happy to talk with them at length about the projects we are involved in.”

Interviews revealed only four Latino informants – all women – actively involved in community environmental issues. As mentioned above, the first wrote an article to a local Latino newspaper. She also took part in Reading’s EcoAction. The second was the leader of EcoAction, an environmental group in Reading that had just been initiated at the time of data collection for this project. EcoAction’s mission was to educate neighborhood Latinos about the local and global
environments through presentations at churches, parade, and other public venues. The third, a public official in Allentown, was initiating a program to improve housing quality, including sewage systems in Latino neighborhoods. The fourth, an activist in Bethlehem, headed a group of women engaged in actions such as disposing of garbage and planting flowers in vacant lots. This informant described her and her neighbors’ work:

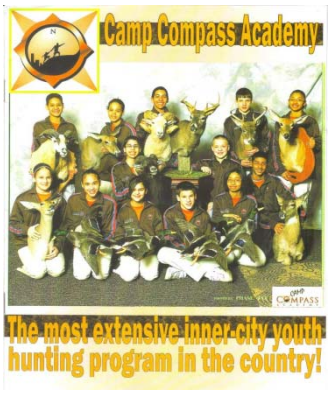
I work with some very active women here who are also involved in Weed and Seed [a local development program] and have organized their neighborhoods to pick up garbage in the street – many people come here and don’t understand that there is municipal garbage – and take the garbage out of vacant lots and

things like that. (607). These Latinas exhibited environmental behavior because they were concerned about immediate risks threatening their families and neighbors. They were also concerned with the appearance of their neighborhoods. The informant from Allentown said better quality housing was critical to building residents' sense of community and resulting in greater environmental awareness. She said, "I think we should have pride in where we live for our kids." Notably, Latino populations in Reading, Allentown, and Bethlehem had a longer history, greater numbers, and more developed leadership, which may have contributed to more activism (though still minimal) than the other interview sites.

Figure 6.3. Latino Environmental Perspectives and Behaviors


¡Qué repoooollaaasooo! Dicen los boricuas, sembrar, cuidar y cosechar vegetales y flores es un arte que también se lleva en la sangre. Ese es lo que nuestro gran amigo de muchos años José Rivera (Cheo) de Allentown, hace cada verano, desde muchos años. No le importa si hace mucho calor o lluvia, el está en su gran labor. ¡Ahhh! También siembra y cosecha gandules que son exquisitos en toda la mesa latina. Felicitaciones Cheo y sigue con tan bonito trabajo.

An Allentown Puerto Rican plants vegetables and flowers. The caption reads: "…[it's] an art that is in his blood...[growing vegetables] is part of the Latino kitchen." (*La Crónica* 9/2/07)



This nonprofit hunting program in Allentown is intended to give inner-city youth rewarding outdoor experiences

"The Planet We are Leaving to Our Children" (*La Voz Latina* Regional 8/21/07)

It is important to point out that since the completion of key informant interviews, local and regional Latino initiatives placed the environment in a more prominent position on the agenda. The primary concern seemed to be child health (e.g., asthma) as it was affected by air pollution. Two programs focused on air pollution in their programming. The Northeast Pennsylvania Latino Alliance featured advisory information during their festival in August 2008. The director of the organization was a professor of public health at a local university. The Pennsylvania Latino Advocacy Council highlighted air pollution during Latino advocacy day in October, 2009. One of the coordinators was a member of the Reading group "EcoAction" mentioned above.

Chapter Summary

This chapter highlighted the complexities and variations in Latino perceptions and uses of natural resources. On a daily basis, Latinos residents in each study site were forced to negotiate myriad personal and community issues. Most, if not all, of these issues were probably intertwined. One of the most prevalent issues was claims of prejudice and discrimination. Another common topic of conversation was the lack of Latino leadership and challenges in motivating resident participation. In many ways, community interactions were reflected in outdoor recreation patterns of Latino residents. Parks and activities were defined according to racial and ethnic boundaries. This both reinforced and weakened ethnic identities.

Despite considerable barriers to interacting with nature, Latino informants reflected strong connections to nature. This was largely based on cultural factors and an agriculture-based anthropocentric perspective that human and natural resources are linked through a mutual relationship of needs. These feelings did not translate to environmental behaviors, however. Few informants were able to describe direct and consistent actions by Latinos to protect the environment. The next chapter presents quantitative findings from the household and intercept surveys which address these inconsistencies.

CHAPTER 7

ANALYSIS OF SURVEY DATA

This chapter presents the results of the household and intercept surveys, which were constructed using information drawn from the key informant interviews. The household survey was conducted in the same communities as the key informant interviews; the intercept survey was conducted in relevant parks. I describe each of the key variables in the study for both surveys. Zero-order correlation analyses of aggregate and community data are used to describe bivariate relationships. To examine the household survey, I employed a series of ordinary least squares (OLS) regression models with means replacement due to widely varying numbers of cases across the dataset (Myers et al. 2006). The intercept dataset was examined using binary logistic regression. Analysis of the intercept survey was limited to Latino respondents and did not include Connectivity.

Household Survey

Univariate Analysis

Sociodemographic, Community, and Ethnicity Characteristics: Sociodemographic characteristics were compared across the six communities (Table 7.1). As explained in Chapter Four, sites were collapsed due to small cell distributions. I used the Tukey test which is a conservative post-hoc analysis that tests for equal variance using 95% confidence intervals. Significant differences existed for all variables except political orientation and region of origin. Respondents were oldest in the Stroudsburg/East Stroudsburg site and youngest in Reading. Tukey's test revealed that Allentown's average age was significantly higher than the average age for Reading. No other subsets displayed significance. Due to Tukey's conservative use of confidence intervals, the overall difference for gender was significant, but no subsets were significant.

Stroudsburg/East Stroudsburg respondents were the most educated while Reading respondents were least educated. Respondents were significantly more educated in Stroudsburg/East Stroudsburg than Allentown and Reading. Average educational level for Reading was significantly lower than in Bethlehem/Easton and Stroudsburg/East Stroudsburg, but not the other sites. Average income was equal

in Allentown, Bethlehem/Easton, and Stroudsburg/East Stroudsburg. The only significant difference in average income was between Allentown and Hazleton/Wilkes-Barre/Scranton, which was lower. Average time lived in the United States was highest in Stroudsburg/East Stroudsburg and lowest in Hazleton/Wilkes-Barre/Scranton. The average time lived in the United States for Stroudsburg/East Stroudsburg was significantly higher than the average time in every other site except Reading. On average, residents in Bethlehem/Easton spoke significantly more English than Allentown, Hazleton/Wilkes-Barre/Scranton, and Reading. Those in Hazleton/Wilkes-Barre/Scranton spoke significantly less English than residents in Bethlehem, Reading, and Stroudsburg/East Stroudsburg, on average.

Outdoor Recreation Behaviors: One of the major questions guiding this dissertation asked: "How do Latinos use natural resources?" Overall, 67% of survey respondents said they had visited either a state park or a local park in the last year. Of these, 15% said they only visited local parks, 20% said they only visited state parks, and 31% said they visited both.

Table 7.1. ANOVA of Sociodemographic Characteristics (N=459)

Variable	Atn	BE	HWS	Rdg	SES	F Score
Age	38.41^{Rdg}	39.05	36.07	33.48	40.55	3.62**
Gender	00.42	00.60	00.56	00.51	00.65	2.54*
Education	01.94^{BE,SES}	02.23^{Atn,Rdg}	01.85	01.84^{BE,SES}	02.27^{Atn,Rdg}	6.75***
Political	01.82	01.95	01.56	01.95	01.86	1.84
Income	01.88^{HWS}	01.88	01.56	01.71	01.88	0.01**
Region	03.25	03.02	02.85	03.13	02.56	0.22
Years in USA	15.19^{SES}	15.76^{SES}	12.72^{SES}	18.57	24.91^{Atn,BE,HWS}	0.00***
Speak English	00.66^{BE,SES}	00.94^{Atn,HWS,Rdg}	00.44^{BE,Rdg,SES}	00.72^{BE,HWS}	00.90^{Atn,HWS}	1.80***

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)
Superscript indicates significant difference between sites at the 0.05 significance level using Tukey (HSD) Test
* = $p<0.05$; ** = $p<0.01$; *** = $p<0.001$

As shown in Table 7.2, a one-factor ANOVA suggested there were no significant differences among communities regarding where participants recreated relative to community of residence. However, when types of recreation activities were included, averages between sites were significant for the composite score of 22 Recreation Activities practiced in local, state, or both locations, or not at all. Reading was found to have the highest level of Recreation Activity. The Tukey post-hoc test revealed that

the Recreation Activity score in Reading differed significantly from those in Bethlehem/Easton and Stroudsburg/East Stroudsburg. Hazleton/Wilkes-Barre/Scranton had the lowest Recreation score, but it did not differ significantly with any subsets.

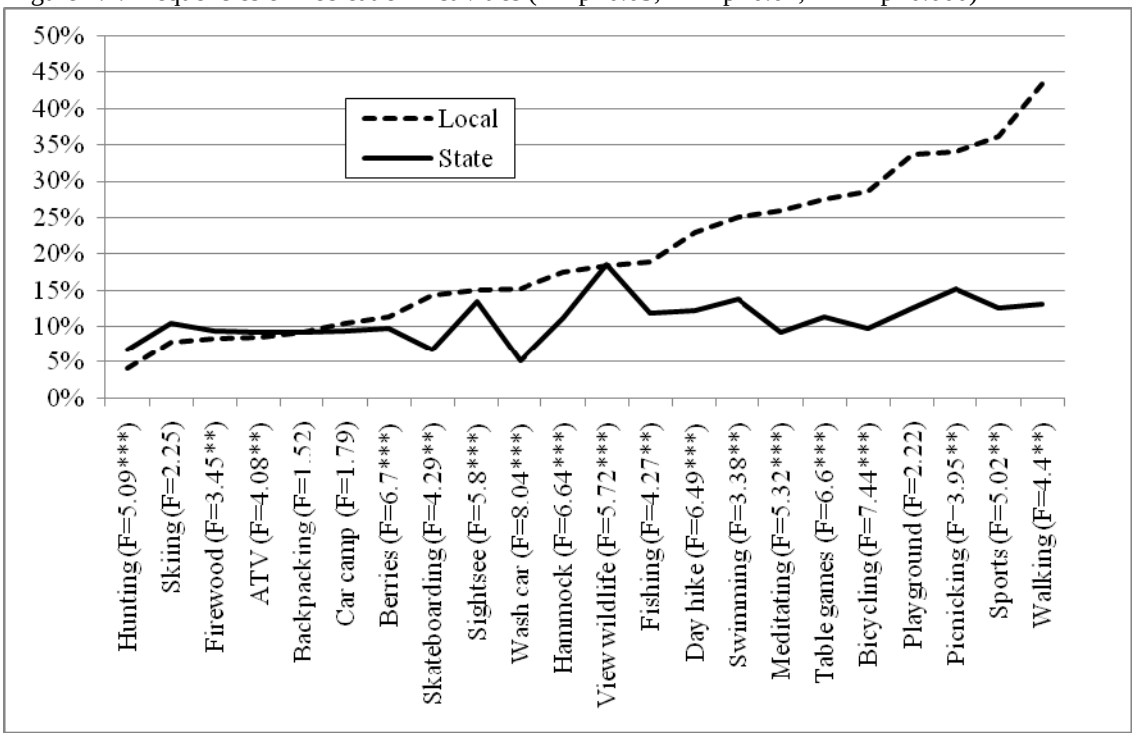
Figure 7.2. ANOVA of Recreation Behaviors

Variable	Overall	Atn	BE	HWS	Rdg	SES	F Score
Location (N=393)	1.74	1.83	1.49	1.65	1.84	1.51	0.18
Activities (N=459)	6.57	$9.42^{BE,SES}$	$7.29^{Atn,Rdg}$	5.17	$9.56^{BE,SES}$	$6.77^{Atn,Rdg}$	9.24***

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)
Superscript indicates a significant difference between the two communities at the 0.05 significance level using Tukey (HSD) Test

* = p<0.05; ** = p<0.01; *** = p<0.001

Figure 7.1. Frequencies of Recreation Activities (* = p<0.05; ** = p<0.01; *** = p<0.000)



For those respondents who participated in at least one outdoor recreation activity during the past year (n=344), activities were explored further (Figure 7.1). For the aggregate data set, walking was the most common activity in local parks and viewing wildlife was the most common activity in state parks. Washing the car was the most unpopular activity in state parks. Unsurprisingly, hunting was the most uncommon activity in local parks. Overall, every activity except skiing, backpacking, car camping, and taking the kids to the playground differed significantly across sites. Although significantly different

between communities overall, a Tukey's post hoc test did not reveal any significant differences between subsets for playing table games and swimming (not shown).

Table 7.3. ANOVA of Connectivity to Nature (N=376)

Variable	Overall	Atn	BE	HWS	Rdg	SES	F Score
	----------mean----------						
Connectivity	2.13	$2.22^{BE,Rdg}$	$2.04^{Atn,HWS}$	$2.28^{BE,Rdg}$	$2.07^{Atn,HWS}$	2.18	5.51***
	----------percent----------						
I think of the natural world as a community to which I belong.	29	34^{BE}	$9^{Atn,\ SES}$	6	48	19^{BE}	4.61**
I feel a sense of oneness with nature	31	45^{HWS}	$6^{Rdg,SES}$	5^{Atn}	$50^{Atn,BE}$	15^{BE}	8.58***
I often feel disconnected from nature	14	21	8	2	22	4	1.98
Spending time outdoors is spiritual for me	30	45^{BE}	$12^{Atn,HWS}$	13	36^{HWS}	13	7.32***
Being outdoors is only worthwhile when I can share it	13	10	5	3	24	8	2.00
I belong to the Earth as it belongs to me.	26	31	9^{HWS}	11^{BE}	37	15	3.72**
Nature is better off when people leave it alone	27	33	12	12	37	15^{Rdg}	2.99*
Caring about the environment is an important part of being Latino	35	50^{BE}	$13^{Atn,HWS}$	12^{BE}	$41^{Atn,SES}$	$21^{BE,Rdg}$	8.50***

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)

Superscript indicates significant difference between sites at the 0.05 significance level using Tukey (HSD) Test

* = $p<0.05$; ** = $p<0.01$; *** = $p<0.001$

Connectivity to Nature: Another question guiding this dissertation asked: "How do Latinos think about natural resources?" When measured as a composite variable, an ANOVA suggested there was a significant difference between sites regarding Connectivity (Table 7.3). Allentown was found to have the highest level of Connectivity with nature. A post-hoc test revealed Connectivity in Allentown significantly differed from that in Bethlehem/Easton and Reading. Bethlehem/Easton had the lowest level of Connectivity (Table 7.4).

The eight items measuring Connectivity were explored further in terms of strongly agree responses. For the most part, caring about the environment as an important part of being Latino had the highest percentage of responses. "Spirituality" and "oneness with nature" were higher than "caring" for Hazleton/Wilkes-Barre/Scranton and Reading respondents, respectively. "Caring" was significantly different between Allentown and Bethlehem/Easton; Bethlehem and Hazleton/Wilkes-Barre/Scranton; and Reading and Stroudsburg/East Stroudsburg.

Environmental Behaviors: A third question guiding this dissertation asked: "Is there an association between recreation behaviors, environmental values, and pro-environmental behaviors?" To answer this question, I first analyzed the distribution between sites. Overall, 21% of respondents said they participated in environmental behaviors in their community. The composite index revealed no significant differences among sites.

Table 7.4. ANOVA of Environmental Involvement (N=407)

	Overall	Atn	BE	HWS	Rdg	SES	F Score
Environmental Involvement	0.55	0.48	0.60	0.69	0.54	0.48	1.27

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)
Superscript indicates significant difference between sites at the 0.05 significance level using Tukey (HSD) Test
* = p<0.05; ** = p<0.01; *** = p<0.001

Regarding Household Environmental Behaviors (Table 7.5), 88% of respondents said they had participated in at least one of the listed environmental activities. A significant difference was found between Stroudsburg/East Stroudsburg respondents who expressed the highest score on average and Allentown which had the lowest average score. A post-hoc test revealed Stroudsburg/East Stroudsburg differed significantly from Allentown and Bethlehem/Easton.

Table 7.5. ANOVA of Environmental Actions at Home (N=376)

Variable	Overall	Atn	BE	HWS	Rdg	SES	F Score
	----------mean----------						
Environmental Behavior at Home	3.80	3.34^{SES}	3.43^{SES}	3.70	3.99	$4.64^{Atn,BE}$	3.51**
	----------percent----------						
Make a special effort to buy fruits and vegetables grown without pesticides and chemicals	52	54	59	63	58	72	1.23
Refuse to eat meat for moral or environmental reasons	24	11^{Rdg}	26	33	36^{Atn}	28	5.33***
Cut back on driving a car for environmental reasons	31	31	29	33	41	37	1.17
Sort glass or paper or plastic for recycling	60	77^{HWS}	64	48^{Atn}	65	74	2.68*
Cut back on eating meat for moral or environmental reasons	29	19^{Rdg}	25	44	43^{Atn}	28	5.18***
Try to use less water when showering or bathing	55	64	45^{SES}	62	61	79^{BE}	3.42**
Use energy saving light bulbs	62	66^{SES}	61^{SES}	67	69^{SES}	$94^{Atn,BE,Rdg}$	4.16**
Use energy saving appliances	57	$49^{Rdg,SES}$	62^{SES}	52^{SES}	$69^{Atn,SES}$	$93^{Atn,BE,HWS,Rdg}$	8.27***

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)
Superscript indicates significant difference between sites at the 0.05 significance level using Tukey (HSD) Test
* = p<0.05; ** = p<0.01; *** = p<0.001

Individual measures revealed significant differences between communities for all but two items: "refusing to eat meat" and "cut back on driving a car." Overall, using energy saving light bulbs had the highest response rate with 94% of participants from Stroudsburg/East Stroudsburg affirmatively responding to the item. Stroudsburg/East Stroudsburg was significantly higher than all sites except Hazleton/Wilkes-Barre/Scranton. As well, Stroudsburg/East Stroudsburg was higher than any other site regarding the use of energy saving appliances. Refusing to eat meat had the lowest overall response, although means differed significantly across sites.

Other environmental actions include those that take place outside of the home (Environmental Behaviors in the Locality). Overall, 34% of respondents participated in at least one of the listed activities. There was a significant difference between sites with Reading having the highest mean score and Allentown with the lowest mean score (Table 7.6). Reading was significantly different from Allentown. Of the four items, using public transportation for environmental reasons had the most responses; however, there was no significant difference between sites. Only one item (clean and remove graffiti) was significantly different between sites, specifically Allentown and Reading, with the latter much more likely to engage the activity.

Table 7.6. ANOVA of Environmental Actions in the Locality (N=376)

Variable	Overall	Atn	BE	HWS	Rdg	SES	F Score
	----------mean----------						
Environmental Behavior in the Locality	01.35	01.03^{Rdg}	01.09	01.26	01.68^{Atn}	01.29	3.61**
	----------percent----------						
Take part in litter clean-ups (adopt-a-stream, adopt-a-road)	30	25	27	41	40	38	2.12
Clean and remove graffiti from local structures	26	14.29^{Rdg}	26	22	42	28	6.64***
Bike or walk to work for environmental reasons	31	30	29	30	43	33	1.79
Use public transportation for environmental reasons	33	39	26	33	44	31	2.05

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)

Superscript indicates significant difference between sites at the 0.05 significance level using Tukey (HSD) Test

* = $p<0.05$; ** = $p<0.01$; *** = $p<0.001$

Bivariate Analysis

Zero-order correlation analyses were used to examine the bivariate relationships for the aggregate dataset. This method was used to examine the presence, strength, and direction of the association between any two variables. Aggregate level Pearson's correlations are shown in Table 7.7.

Environmental Behaviors: For the aggregate dataset, the bivariate relationship between Environmental Involvement and outdoor recreation was positively and significantly related to both Recreational Location and Recreational Activities. By contrast, Household Environmental Behaviors and Environmental Behaviors in the Locality were positively and significantly related only to Recreational Location. In addition, as Environmental Involvement and Household Environmental Behaviors increased, Connectivity also significantly increased.

Of the sociodemographic variables, Environmental Involvement was higher for respondents with more education and men had higher scores for environmental behaviors at Home. When examining these relationships at the community level, Environmental Behaviors in the Locality and at Home decreased for Allentown participants and had the opposite effect for participants in Reading. Finally, neither region of Latino ethnicity nor Time lived in the United States were significant with any measure of environmental behavior. However, those who could speak more English had higher levels of Environmental Involvement and practiced more environmental activities at Home.

Recreation Behaviors: Location of recreation behaviors (local, state, or both) was positively and significantly related only to English level and Connectivity to nature. Respondents with higher Recreation Activity scores tended to have higher educational levels. They also lived in Bethlehem/Easton or Stroudsburg/East Stroudsburg, but were not as likely to live in Reading. Higher Recreation Activity levels were also positively and significantly associated with English level, Connectivity to nature, and Recreation Location.

Connectivity to Nature: Age significantly increased with increasing levels of Connectivity to nature. As well, levels of Connectivity were higher for men. Connectivity was negatively and significantly related to Political Ideology. That is, Connectivity to nature increased with increasingly

liberal ideological beliefs. Connectivity was significantly and positively related to Allentown and Hazleton/Wilkes-Barre/Scranton and negatively related to Bethlehem/Easton and Reading.

Multivariate Analysis

This section reports results from the OLS regression analyses of environmental behaviors, Connectivity to nature, and recreation behaviors used to test hypotheses presented in Chapter Three. Standardized regression coefficients for five models are reported along with the explanatory power of each model using the adjusted coefficient of multiple determination (Adjusted R^2). F values and levels of significance for each model are indicated in the tables as well. The final reduced model using backward elimination is presented for each analysis. Dependent variables used in the analysis were the three measures of environmental behaviors previously discussed. Only direct effects are discussed.

Involvement: Table 7.8 presents tests for Environmental Involvement, a type of pro-environmental behavior. Model 1 for the aggregate dataset tested the effect of the Sociodemographic control variables on environmental behavior. There were no significant influences. The communities of residence were added to Model 2 which increased the R^2 slightly; however, the model remained insignificant. In Model 3, English was the only significant Ethnicity predictor. As English levels increased, Environmental Involvement increased. The R^2 increased from 1% to 4% between models 2 and 3.

Model 4 included Connectivity with nature. English remained highly significant. Central America and South America became slightly significant with USA as the control variable. Central Americans and South Americans were more likely than Latinos from the United States to engage in pro-environmental Involvement. As well, Connectivity with nature was positively and significantly related to Involvement. As Connectivity scores increased, Involvement also increased. The R^2 increased from 4% to 5% between models 3 and 4.

Table 7.7. Pearson's Bivariate Correlation Matrix of Variables Used in the Household Survey Aggregate Dataset

Variables	1	2	3	4	5	6	7	8	9	10	11
Sociodemographics											
1. Age											
2. Gender	0.00										
3. Education	-0.10	0.16**									
4. Political	0.03	-0.01	0.01								
5. Income	-0.02	0.03	0.19**	-0.01							
Community											
6. Atn	0.13	-0.12*	-0.03	-0.04	0.10						
7. BE	0.06	0.07	0.16**	0.04	0.06	-0.25*					
8. HWS	0.00	0.02	-0.04	-0.11*	-0.12*	-0.15**	-0.10*				
9. Rdg	-0.19**	-0.01	-0.16**	0.07	-0.12*	-0.52**	-0.34**	-0.21**			
10. SES	0.09	0.09	0.15**	-0.01	0.05	-0.22**	-0.14**	-0.09	-0.29**		
Ethnicity											
11. Region	0.08	0.02	-0.01	0.05	-0.03	0.06	-0.01	-0.03	0.03	-0.10*	
12. Time	0.43	0.04	-0.08	-0.07	0.03	-0.11	-0.05	-0.11	0.07	0.22**	-0.32**
13. English	-0.24**	0.03	0.27**	-0.03	0.20**	-0.11*	0.18*	-0.17**	-0.04	0.13**	-0.15**
Connectivity											
14. Connectivity Score	0.17**	0.16**	-0.02	-0.12*	-0.02	0.15**	-0.12*	0.12*	-0.14*	0.05	-0.06
Recreation Beh											
15. Location	-0.04	-0.01	0.06	-0.09	0.00	0.04	-0.09	-0.02	0.08	-0.07	0.06
16. Activities	0.04	0.02	0.11*	-0.01	-0.03	-0.02	0.17**	0.02	-0.21**	0.16**	-0.02
Environment Beh											
17. Involvement	-0.05	0.09	0.10*	-0.10	0.04	-0.08	0.07	0.06	-0.02	0.01	0.08
18.Activities in Locality	-0.04	0.07	-0.01	-0.09	-0.06	-0.12*	-0.07	-0.02	0.18**	-0.01	0.00
19. Activities at Home	0.08	0.16**	0.08	-0.06	-0.05	-0.12*	-0.07	-0.01	0.07	0.14**	0.00

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)

* = $p<0.05$; ** = $p<0.01$

Table 7.7. Pearson's Bivariate Correlation Matrix of Variables Used in the Household Survey Aggregate Dataset (Cont.)

Variables	12	13	14	15	16	17	18
Sociodemographics							
1. Age							
2. Gender							
3. Education							
4. Political							
5. Income							
Community							
6. Atn							
7. BE							
8. HWS							
9. Rdg							
10. SES							
Ethnicity							
11. Region							
12. Time							
13. English	0.07						
Connectivity							
14. Connectivity Score	0.02	-0.02					
Environment Beh							
15. Location	-0.07	0.13**	0.13*				
16. Activities	-0.07	0.19**	0.12*	0.25**			
Environment Beh							
17. Involvement	-0.01	0.20**	0.11*	0.29**	0.17**		
18.Activities in Locality	0.09	0.09	0.10	0.12*	0.01	0.13*	
19. Activities at Home	0.10	0.14*	0.17**	0.11*	-0.01	0.20**	0.41**

Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); Rdg (Reading); SES (Stroudsburg/East Stroudsburg)

* = $p<0.05$; ** = $p<0.01$

Table 7.8. Comparison of Five Multivariate Models on Latino Environmental Involvement[†]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Reduced Model
	--Standardized Coefficients--					
Sociodemographics						
1. Age	-0.032	-0.028	-0.004	-0.022	-0.056	
2. Gender	0.070	0.062	0.059	0.043	0.042	
3. Education	0.079	0.073	0.034	0.032	0.020	
4. Political	-0.091	-0.090	-0.083	-0.074	-0.049	
5. Income	0.016	0.025	0.006	0.005	0.012	
Community (Rdg)						
6. Atn		-0.047	-0.036	-0.050	-0.065	
7. BE		0.049	0.015	0.024	0.038	
8. HWS		0.048	0.088	0.075	0.078	0.102*
10. SES		-0.007	-0.019	-0.024	-0.003	
Ethnicity						
11. Region (USA)						
b. PR			0.022	0.033	0.048	
c. OC			0.021	0.036	0.071	
d. MX			0.037	0.045	0.028	
e. CA			0.093	0.104*	0.110*	0.096*
f. SA			0.120	0.130*	0.131*	0.092*
12. Time			0.021	0.028	0.056	
13. English			0.191***	0.188***	0.154**	0.198***
Connectivity						
14. Connectivity Score				0.105*	0.067	
Recreation Behaviors						
15. Location (State)						
a. None					-0.043	
b. Local					0.025	
d. Both					0.245*	0.264***
16. Activities					0.056	
Df	5	9	16	17	21	5
Adjusted R^2	0.013	0.012	0.039	0.047	0.112	0.128
F value	2.18	1.63	2.17**	2.34**	3.76***	13.31***

[†] Reference category in parentheses
Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); SES (Stroudsburg/East Stroudsburg)
PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)
* = $p<0.05$; ** = $p<0.01$; *** = $p<0.001$

Model 5 introduced recreation behaviors. Connectivity lost significance; however, the significant variables from Model 4 retained their levels of significance. The variable recreating in both state and local parks was significant, while not participating and participating only in local parks were not significant. Those who participated in activities in both state and local parks were more likely than the control variable (those who participated only in state parks) to engage in environmental behaviors. The R^2 increased from 5% to 11% between models 4 and 5.

Five predictors were significant in the reduced model. Respondents from Hazleton/Wilkes-Barre/Scranton were more likely than those from Reading to be Environmentally Involved (with Reading as the control). As in Model 5, Central and South Americans were more likely than respondents from the United States (control) to be involved. Involvement increased with increasing levels of English. Those who recreated in both state and local parks tended to have greater levels of Involvement than those who recreated solely in state parks (control).

With an F change of 9.6 ($p<0.001$) and R^2 of almost 13% (Adjusted $R^2 = 0.128$), the model increased the explained variation in Environmental Involvement by about 2% over Model 5. Although the "Involvement" model was relatively weak, it had the most explanatory power out of the three dependent variables used in the household survey analysis. Hypothesis 1(environmental behaviors are related to ethnicity) was somewhat supported with the significance of three of the ethnicity measures. Although Recreation Activities was conceptually a better explanation for environmental behaviors according to the literature, Hypothesis 3 was supported to some extent since recreation in both state and local parks indicated a higher level of recreation. However, Hypothesis 4, which stated that higher levels of Connectivity to nature increased environmental behaviors, was not supported by the final model, net other variables. Significant findings for Hazleton/Wilkes-Barre/Scranton suggested the relevance of Community effects (Hypothesis 2), although qualitative findings were needed to understand and explain this further (see Chapter Eight).

Locality: Table 7.9 illustrates influences on Environmental Behaviors in the Locality using a multivariate analysis. These were behaviors generally practiced outside the home and were often more socially oriented. As in the first analysis, none of the Sociodemographic variables were significant in Model 1. Model 2 introduced Community indicators and increased the R^2 by almost 2%. Allentown and Bethlehem/Easton respondents were less likely than Reading (control) respondents to engage in locality-based pro-environmental behaviors. These variables remained significant in Model 3 with the addition of Ethnicity. Only level of English was positive and significant in Model 3. The R^2 increased from 2.5% to 3% between models 2 and 3.

Table 7.9. Comparison of Five Multivariate Models on Latino Environmental Behaviors in the Locality[†]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Reduced Model
	--Standardized Coefficients--					
Sociodemographics						
1. Age	-0.037	-0.005	0.010	-0.009	0.007	
2. Gender	0.070	0.064	0.063	0.047	-0.055	
3. Education	-0.011	0.015	0.000	-0.001	-0.009	
4. Political	-0.083	-0.095	-0.089	-0.080	-0.079	
5. Income	-0.049	-0.034	-0.042	-0.043	-0.039	
Community (Rdg)						
6. Atn		-0.165**	-0.162**	-0.177**	-0.143**	-0.115*
7. BE		-0.1356**	-0.157**	-0.148*	-0.133*	-0.084*
8. HWS		-0.077	-0.053	-0.067	-0.051	
10. SES		-0.082	-0.096	-0.101**	-0.103*	
Ethnicity						
11. Region (USA)						
b. PR			0.075	0.087	0.095	
c. OC			-0.047	-0.031	-0.023	
d. MX			0.025	0.033	0.030	
e. CA			0.043	0.055	0.053	
f. SA			0.050	0.061	0.061	
12. Time			0.052	0.060	0.062	
13. English			0.107*	0.104*	0.086	
Connectivity						
14. Connectivity Score				0.109*	0.114*	0.114*
Recreation Behaviors						
15. Location (State)						
a. None					-0.135*	-0.162**
b. Local					-0.178**	-0.183**
d. Both					-0.125*	-0.116*
16. Activities					0.012	
Df	5	9	16	17	21	6
Adjusted R^2	0.005	0.025	0.032	0.041	0.055	0.061
F value	1.44	2.32*	1.95*	2.15**	2.26**	4.885***

[†] Reference category in parentheses
Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); SES (Stroudsburg/East Stroudsburg)
PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)
* = p<0.05; ** = p<0.01; *** = p<0.001; Reference Categories: Reading, USA, State

The composite Connectivity score was introduced in Model 4 and was significantly related to Environmental Behavior in the Locality. As Connectivity increased, so did Environmental Behaviors in the Locality. English, Allentown, and Bethlehem/Easton remained significant, although Bethlehem/Easton was reduced in significance with Reading as the control. Stroudsburg/East Stroudsburg also became significant in Model 4. The R^2 increased from 3% to 4% between models 3 and 4.

Finally, all three Recreation Location variables were significant in Model 5. Environmental behaviors were lower for those respondents falling in the three categories other than state parks. Stroudsburg/East Stroudsburg was reduced in significance and English completely lost significance. The R^2 increased from 4% to 5.5% between models 4 and 5.

The final reduced model revealed no significant Sociodemographic variables. Allentown and Bethlehem/Easton remained less committed to Environmental Behaviors in the Locality than Reading. Connectivity remained positively and significantly related to behaviors. The three Recreation Location predictors also retained significance. The final model had an F change of 2.62 ($p<0.001$) over Model 5 and minimal explanatory power (Adjusted R^2 0.061). The R^2 increased from 5.5% to 6% between Model 5 and the Reduced Model.

This analysis failed to support Hypothesis 1 stating different environmental behaviors were based on ethnicity. However it somewhat supported Hypothesis 2, which suggested differences based on community. This analysis supported Hypothesis 3, which stated that recreation behaviors were related to environmental behavior. As with the analysis for Environmental Involvement, the Recreation Activities variable did not support the hypothesis. Finally, the significant relationship between Connectivity and Environmental Behaviors in the Locality supported Hypothesis 4.

Household: Factor analysis revealed Household Environmental Behaviors were distinct from those practiced outside the home (Appendix G). This dependent variable was associated with Gender throughout the analysis. As well, Table 7.10 shows men were more likely than women to engage in Household Environmental Behaviors. No other Sociodemographic variables from Model 1 were significant.

In Model 2, Age also was significant. Older respondents had higher levels of environmental behaviors. As with Environmental Behaviors in the Locality, respondents in Allentown and Bethlehem/Easton were less likely than those in Reading (control) to practice environmental behaviors at home. The R^2 increased 2% between models 1 and 2. Age and Gender remained significant and

Allentown lost significance in Model 3. English level was the only significant ethnicity variable. The R^2 increased from 4.5% to 6% between models 2 and 3.

Table 7.10. Comparison of Five Multivariate Models on Latino Household Environmental Behaviors[†]

Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Reduced Model**
	--Standardized Coefficients--					
Sociodemographics						
1. Age	0.076	0.092*	0.124*	0.100	0.094	0.104*
2. Gender	0.134**	0.122**	0.129**	0.109*	0.103*	0.110*
3. Education	0.074	0.080	0.050	0.048	0.047	
4. Political	-0.059	-0.064	-0.053	-0.042	-0.039	
5. Income	-0.053	-0.044	-0.060	-0.061	-0.064	
Community (Rdg)						
6. Atn		-0.122*	-0.097	-0.116*	-0.120*	-0.126**
7. BE		-0.117*	-0.133*	-0.123*	-0.104*	-0.128**
8. HWS		-0.049	-0.031	-0.048	-0.044	
10. SES		0.056	0.043	0.037	0.058	
Ethnicity						
11. Region (USA)						
b. PR			-0.117	-0.102	-0.099	-0.114*
c. OC			0.003	0.023	0.026	
d. MX			0.024	0.035	0.029	
e. CA			0.004	0.019	0.017	
f. SA			-0.039	0.025	0.028	
12. Time			-0.006	-0.005	-0.004	
13. English			0.144**	0.140**	0.138**	0.152**
Connectivity						
14. Connectivity Score				-0.137**	-0.132**	-0.135**
Recreation Behaviors						
15. Location (State)						
a. None					0.049	
b. Local					-0.021	
d. Both					-0.049	
16. Activities					0.057	
df	5	9	16	17	21	7
Adjusted R^2	0.025	0.046	0.064	0.079	0.078	0.087
F value	3.38**	3.45***	2.95***	3.31***	2.84***	7.269***

[†] Reference category in parentheses
Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); SES (Stroudsburg/East Stroudsburg)
PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)
* = $p<0.05$; ** = $p<0.01$; *** = $p<0.001$; Reference Categories: Reading, USA, State

With the addition of Connectivity in Model 4, Age lost significance and Allentown regained significance with Reading as the control variable. The other variables remained the same from Model 3 and Connectivity was positively and significantly related to Household Environmental Behaviors. The R^2

increased from 6% to 8% between models 3 and 4.The same pattern of significance continued in Model 5 with the addition of recreation variables. No recreation behaviors variables were significant and the R^2 change was negligible.

In the final model, Age returned to significance. Gender, Allentown, and Bethlehem/Easton (with Reading as the control variable) continued previous patterns of direction and significance. Thus, Hypothesis 2 proposing community differences was supported. Regarding the influence of Ethnicity (Hypothesis 1), English once again was significant while Puerto Ricans were less likely than respondents from the United States (control) to practice Household Environmental Behaviors. Connectivity (Hypothesis 4) also retained significance and a positive relationship with environmental behaviors. Because no Recreation Behaviors were significant, Hypothesis 3 was not supported by the model. The model had little explanatory power (Adjusted $R^2 = 0.087$; $p<0.001$). The final model had an F change of nearly 4 over Model 5.

Intercept Survey

Univariate Analysis

Sociodemographic, Community, and Ethnicity Characteristics: Sociodemographic and Ethnicity characteristics were compared across five Latin American regions (Table 7.11). As described in Chapter Four, no Latino respondents identified their Latino ethnic background as from the United States (e.g., Chicano) and country cells were collapsed to regions due to small distributions. Significant differences between regions existed for Education, Time lived in the United States, and English speaking ability. Regarding Education, Puerto Ricans significantly differed from Mexicans and Central Americans. Residents from Caribbean countries other than Puerto Rico differed in educational level from Central Americans. Overall, Puerto Ricans had lived longer in the United States, and this was significantly different from all other regions. The newest residents were from Central America. Puerto Ricans also had higher levels of English, although no subsets were significant.

Table 7.11. ANOVA of Sociodemographic Characteristics (N=716)

Variable	PR	OC	MX	CA	SA	F Score
Age	37.66	38.86	36.46	38.84	37.54	00.54
Gender	00.47	00.51	00.59	00.45	00.50	01.20
Education	$01.65^{MX,CA}$	01.66^{CA}	01.40^{PR}	$1.23^{PR,CA}$	01.47	05.88***
Income	02.09	02.14	02.29	01.97	02.17	01.55
Time in U.S.	$24.82^{OC,MX,CA,SA}$	$20.66^{PR,MX}$	$15.10^{PR,MX}$	14.40^{PR}	18.22^{PR}	16.72***
English	00.90	00.83	00.54	00.58	00.61	24.99***

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Cent Amer); SA (South Amer)
* = p<0.05; ** = p<0.01; *** = p<0.001

Community: Regarding the community-type variable, Latino respondents came from 139 zip codes and four states. Ninety-four percent were from Pennsylvania, including 131 from Allentown, 79 from Bethlehem/Easton, 2 from Stroudsburg/East Stroudsburg, 4 from Hazelton/Wilkes-Barre/Scranton, 175 from Reading, and 320 from places outside the study region (5 missing cases). Table 7.12 presents a comparison of ethnic backgrounds across communities. Ethnicities were significantly different in Allentown, Reading, and outside the research area.

Table 7.12. ANOVA of Community Characteristics (N=711)

	PR	OC	MX	CA	SA	F
Atn	94	9	11	7	10	2.74*
BE	56	8	6	8	1	2.080
SES	1	0	0	1	0	1.930
HWS	3	0	1	0	0	0.430
Rdg	128	26	16	3	2	4.37**
Other	174	56	47	21	22	6.42***

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Cent Amer); SA (South Amer); Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); SES (Stroudsburg/East Stroudsburg); Other (Outside research area)
* = p<0.05; ** = p<0.01; *** = p<0.001

Appreciative to Slight Recreation Behaviors: As shown in Table 7.13, an ANOVA suggested there was no significant difference between Latino ethnicities regarding Appreciative to Slight recreation activities (activities having relatively low environmental impact). For each activity, higher numbers of participants responded positively to engaging in outdoor recreation in *both* state and local parks than *either* state or local parks (Figure 7.2). Hanging out had the most number of responses while going to the beach had the fewest. In state parks, picnicking and playing sports were the most common activities while

walking and playing table games were the least common. By contrast, walking and taking the kids to the playground were most common in local parks while going to the beach was the least common activity.

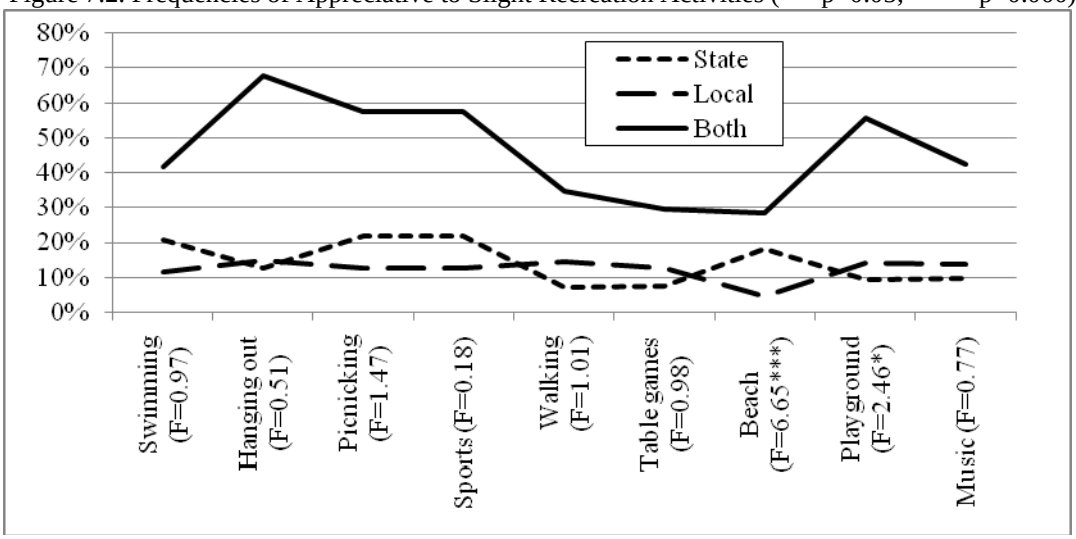
Table 7.13. ANOVA of Appreciative to Slight Recreation Behaviors (N=716)

Variable	Overall	PR	OC	MX	CA	SA	F Score
Appreciative to Slight	16.02	15.87	15.63	16.87	16.13	16.86	0.667

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)

A closer look at the individual items (Figure 7.2) revealed going to the beach and taking the kids to the playground were the only activities showing a significant difference with other activities. A post-hoc test revealed only going to the beach had significant subsets. A significantly higher proportion of Puerto Rican participants went to the beach compared to Mexicans. As well, respondents from each region went to the beach in higher proportions than those from South America.

Figure 7.2. Frequencies of Appreciative to Slight Recreation Activities (* = p<0.05; *** = p<0.000)



Moderate to Intensive Recreation Behaviors: Similar to the measure for Appreciative to Slight recreation, the ANOVA indicated no significant difference between Latino ethnicities regarding Moderate to Intensive (those activities having a higher environmental impact than Appreciative to Slight activities) recreation activities (Table 7.14). Hunting, ATV use, vehicle camping, and attending nature programs were the activities reported by fewest participants in both state and local parks (Figure 7.3). Bicycling was the most commonly cited activity practiced in both state and local parks. This was closely followed

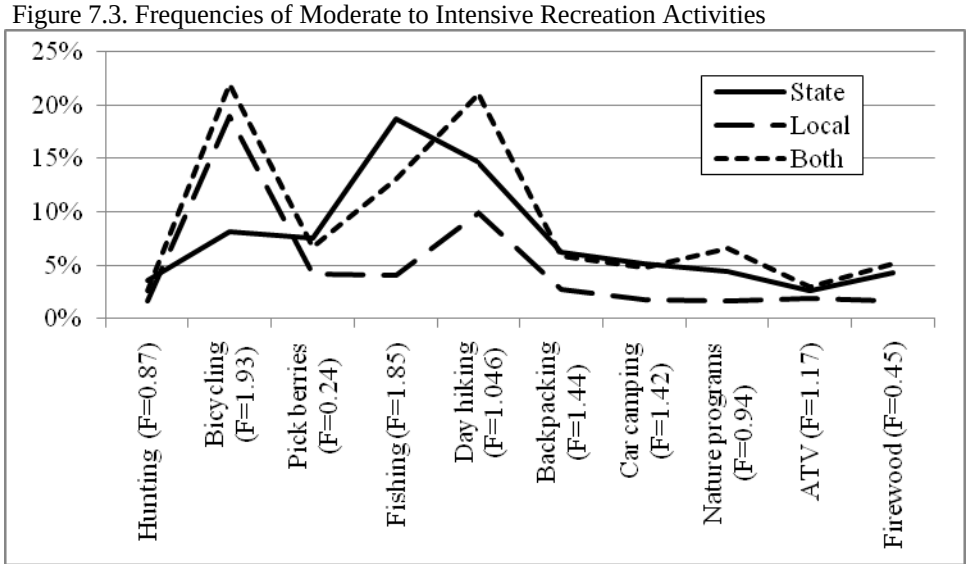
by day hiking. Fishing was highest in state parks; bicycling was highest in local parks. The means of respondents reporting participation in moderate to intensive activities were not significantly different.

Table 7.14. ANOVA of Moderate to Intensive Recreation Behaviors (N=716)

Variable	Overall	PR	OC	MX	CA	SA	F Score
Moderate to Intensive	4.45	4.62	4.25	4.00	4.93	3.44	0.77

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)

Figure 7.3. Frequencies of Moderate to Intensive Recreation Activities



Recreation Constraints: Table 7.15 shows an ANOVA for recreation Constraints. Overall, participants' responses significantly differed according to region of ethnicity. South Americans had the highest average scores, meaning they felt most constrained in achieving their recreation goals. According to the Tukey's post hoc test, this was significantly higher than Puerto Ricans and Other Caribbean.

Table 7.15. ANOVA of Constraints (N=634)

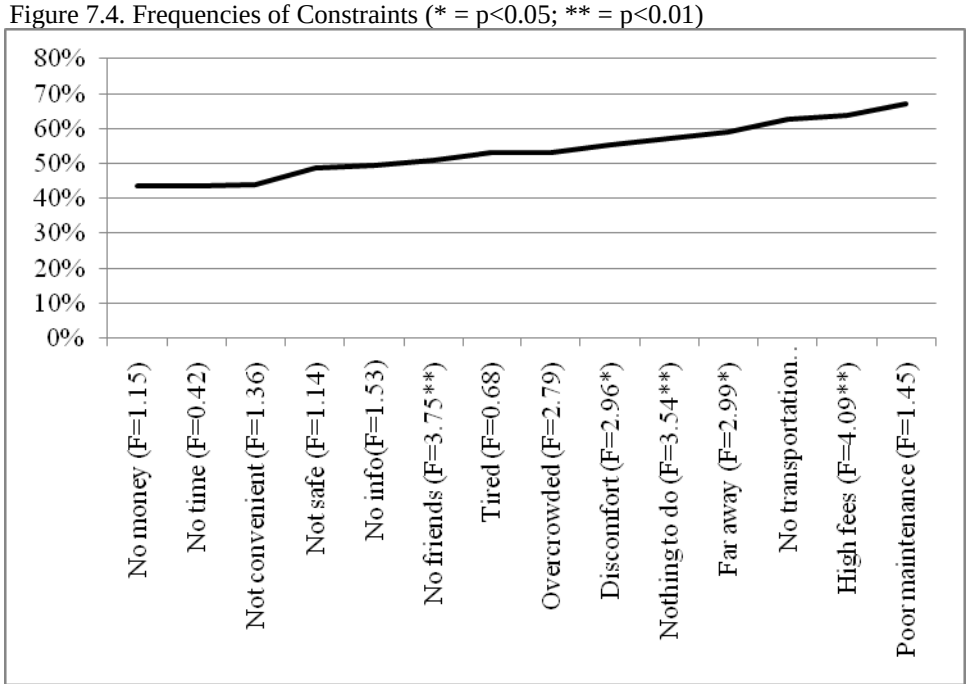
Variable	Overall	PR	OC	MX	CA	SA	F Score
Constraints	2.1	2.08^{SA}	2.01^{SA}	2.18	2.19	$2.46^{PR,OC}$	3.35*

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)
Superscript indicates significant difference between sites at the 0.05 significance level using Tukey (HSD) Test
* = $p<0.05$

Measures of Constraints were significantly different among Latin American regions, including not having friends to go with, discomfort around other visitors, distance, and high fees (Figure 7.4). It is important to note that neither local parks nor state parks charged entrance fees. As a constraint, perceptions of high fees may refer to pool access or respondents may have confused private facilities with

public lands as mentioned in the previous chapter. The most frequently cited constraint was poor maintenance while the least cited constraint was no money. At least 40% of Latino respondents mentioned at least one of the listed constraints.

Figure 7.4. Frequencies of Constraints (* = p<0.05; ** = p<0.01)



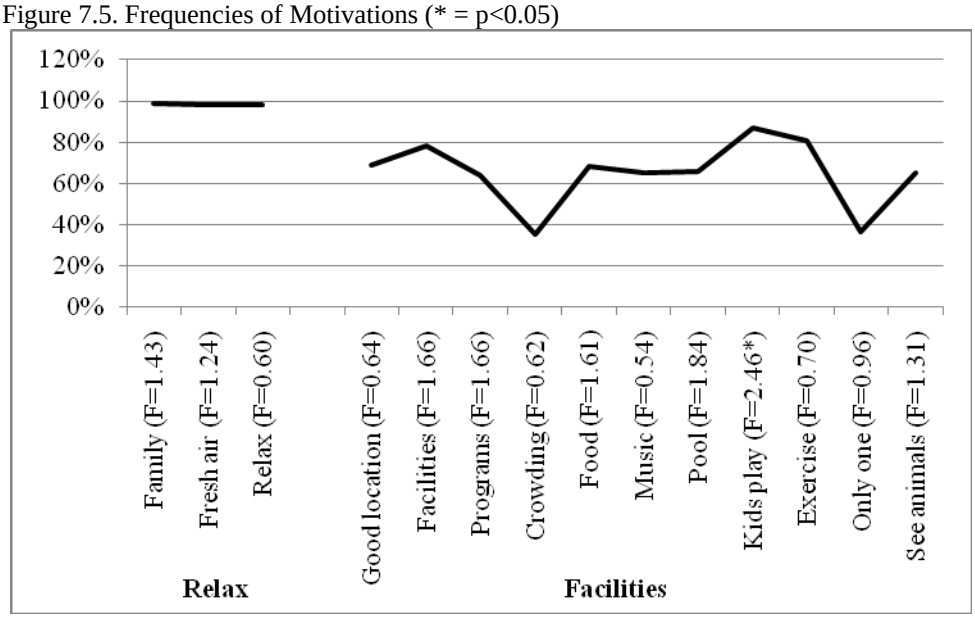
Recreation Motivations: Neither composite measure of recreation Motivations significantly differed between regions, overall (Table 7.16). Nearly 100% of respondents cited the variables measuring motivations linked to relaxation (Relax Motivations), including being with family, enjoying fresh air, and relaxing (Figure 7.5). Frequencies were more varied for motivations linked to facility characteristics (Facility Motivations). Taking the kids to play and exercising were among the most frequently cited reasons for visiting the particular park. Low levels of crowding and the only facility available were not important factors in the decision to visit the park. The majority of the items were mentioned by over 60% of Latino respondents, overall.

Table 7.16. ANOVA of Motivations (N=716)

Variable	Overall	PR	OC	MX	CA	SA	F Score
Relaxing	0.98	0.98	0.99	0.99	1.00	1.00	0.16
Facilities	0.65	0.64	0.66	0.66	0.65	0.63	0.23

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)

Figure 7.5. Frequencies of Motivations (* = p<0.05)



Environmental Behaviors: The dichotomous Environmental Behaviors measure significantly differed between regions (Table 7.17). Respondents from South America had the highest average, followed by Central Americans, equal averages for Mexicans and other Caribbean countries, and Puerto Ricans. South American respondents were significantly different from Puerto Ricans.

Table 7.17. ANOVA of Environmental Behaviors (N=716)

Variable	Overall	PR	OC	MX	CA	SA	F Score
Environmental Behaviors	0.56	0.51^{SA}	0.60	0.60	0.65	0.81^{PR}	3.97**

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)
Superscript indicates a significant difference between the two communities at the 0.05 significance level using Tukey (HSD) Test
* = p<0.05; ** = p<0.01

Bivariate Analysis

Environmental Behaviors: Table 7.18 shows that for the aggregate dataset, the bivariate relationship between Environmental Behaviors and Community was significant. In terms of Ethnicity, Environmental Behaviors were not likely for Puerto Ricans, indicated by a negative and significant relationship. By contrast, South Americans were more likely to engage in environmental actions. There were no significant relationships for the other regions.

A negative relationship existed between Environmental Behaviors and Time spent in the United States. The more time a respondent spent in the United States, the less likely he or she was to engage in

environmental activities. Finally, Environmental Behaviors were significantly and positively related to Moderate to Intensive recreation behaviors. Respondents' likelihood of participating in Environmental Actions increased at their Moderate to Intensive recreation score increased. Environmental Behaviors were not related to Community.

Recreation Behaviors: In the bivariate analysis, recreation behaviors were not related to Community or Ethnicity. Moderate to Intensive recreation behaviors were significantly and positively related to Appreciative to Slight behaviors. This means that Latinos who participated in Moderate to Intensive recreation behaviors also tended to participate in Appreciative to Slight behaviors. Both types of recreation behaviors increased with increasing Income. Appreciative to Slight increased with Education and both recreation types increased with English level. Moderate to Intensive activities decreased with increasing Constraints and increased with Facility Motivations. Appreciative to Slight activities increased with increasing motivations.

Motivations: Besides the previously discussed relationships, Facilities Motivations was positively and significantly related to Age and motivations linked to relaxing. In other words, respondents tended to visit the park based on opinions about the facilities if they were older and were interested in relaxing. Relax Motivations was positively associated with Age, Gender, and Education. Older visitors tended to go to the park to relax. Men and more educated respondents also wanted to relax at the park. The only relationship between Ethnicity and motivations regarded Puerto Rican respondents. Scores for motivations linked to relaxing tended to decrease for Puerto Rican respondents.

Constraints: Four significant bivariate relationships existed for Constraints to visiting parks. Constraints scores increased with decreasing income and increasing education. As well, Constraints scores were significantly related to Community. Constraints scores also tended to increase for South American respondents but relationships were not significant for respondents from other regions.

Table 7.18. Pearson's Bivariate Correlation Matrix of Variables Used in the Intercept Survey Aggregate Dataset

Variables	1	2	3	4	5	6	7	8	9	10
1. Age										
2. Gender	-0.005									
3. Income	-0.077*	0.031								
4. Education	0.038	0.040	0.341**							
Community										
5. Community	0.108**	0.043	0.065	0.016						
Ethnicity										
6. PR	-0.009	-0.056	0.119**	-0.049	-0.127**					
7. OC	0.038	0.015	0.037	0.013	0.119**	-0.534**				
8. MX	-0.039	0.076*	-.099**	0.083*	0.078*	-0.482**	-0.145**			
9. CA	0.022	-0.018	-0.129**	-0.047	-0.024	-0.324**	-0.097**	-0.088*		
10. SA	-0.004	0.006	-0.040	0.016	0.004	-0.307**	-0.092*	-0.083*	-0.056	
11. Time	0.345**	-0.012	0.133**	0.183**	-0.004	0.266**	-0.047	-0.196**	-0.145**	-0.070
12. English	0.030	-0.064	0.207**	0.126**	-0.024	0.288**	0.013	-0.255**	-0.151**	-0.121**
Constraints & Motivations										
13. Constraints	0.072	0.017	-0.083*	0.168**	-0.080*	-0.051	-0.061	0.043	0.035	0.121**
14. Relax	0.075*	0.094*	-0.015	0.150**	0.000	0.094*	0.039	0.045	0.040	0.038
15. Facilities	0.152**	-0.068	0.025	0.033	0.003	0.027	0.024	0.017	0.009	-0.015
Recreation Behaviors										
16. Appreciative-Slight	-0.023	0.050	0.101**	0.175**	-0.026	-0.030	-0.024	0.048	0.004	0.030
17. Moderate-Intensive	-0.056	-0.019	0.099**	-0.014	0.027	0.043	-0.016	-0.033	0.023	-0.046
Dependent Variable										
18. Enviro. Actions	-0.009	-0.047	-0.022	-0.000	0.121**	-0.121**	0.032	0.034	0.046	0.116**

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)
* = $p<0.05$; ** = $p<0.01$

Table 7.18. Pearson's Bivariate Correlation Matrix of Variables Used in the Intercept Survey Aggregate Dataset (Cont.)

Variables	11	12	13	14	15	16	17
1. Age							
2. Gender							
3. Income							
4. Education							
Community							
5. Community							
Ethnicity							
6. PR							
7. OC							
8. MX							
9. CA							
10. SA							
11. Time							
12. English	0.399**						
Constraints & Motivations							
13. Constraints	0.034	-0.035					
14. Relax	0.043	-0.066	0.019				
15. Facilities	-0.040	0.025	0.013	0.157**			
Recreation Behaviors							
16. Appreciative-Slight	0.030	0.104**	0.025	0.143**	0.229**		
17. Moderate-Intensive	0.005	0.120**	-0.168**	0.009	0.253**	0.394**	
Dependent Variable							
18. Enviro. Actions	-0.078*	-0.055	-0.072	-0.062	0.047	0.032	0.091*

PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)

* = $p<0.05$; ** = $p<0.01$

Multivariate Analysis

This section reports results from the binary logistic regression analysis of direct effects between environmental behaviors and community, ethnicity, and recreation behaviors used to test hypotheses presented in Chapter Three (Table 7.19). Connectivity was not included in the survey. As well, Stroudsburg/East Stroudsburg and Hazelton/Wilkes-Barre/Scranton were excluded from the multivariate analysis due to insufficient cases (Table 7.12). Adjusted odds ratios controlling for other variables are reported along with the explanatory power of each model using the Nagelkerke pseudo R^2 and levels of significance for each model. Likelihood ratio Chi Square Tests (X^2) compared sequential models. The dependent variable was a dichotomous question that asked whether or not the respondent participated in pro-environmental behaviors. Only direct effects are reported.

Model 1 for the aggregate dataset tested control variables on Environmental Behavior. There were no significant influences and this pattern continued throughout the analysis. The Community variable was added to Model 2 resulting in positive and significant relationships between the dependent variable, Bethlehem/Easton and Reading, with Other as the control. Bethlehem/Easton was almost 3 times as likely and Reading was 30% as likely as resident from areas outside the study region to engage in environmental activities. The X^2 increased by 60 between models 1 and 2. These variables remained significant throughout the analysis.

The third model included Ethnicity. The only indicators to attain statistical significance were residents from Puerto Rico and Mexico, with South Americans as the control variable. The odds that Puerto Ricans engaged in pro-environmental behaviors were 4.5 times the odds for South Americans. The odds that Mexicans engaged in pro-environmental behaviors were nearly 4 times the odds for South Americans. Thus, Puerto Rican and Mexican respondents were significantly more likely than respondents from South America to engage in pro-environmental behaviors, net the other variables in the model. The variables retained significance through Model 5. The X^2 changed by 15 between models 2 and 3. The patterns of significance continued for Model 4 with the additional significance of Other Caribbean countries. The X^2 changed by 10 between models 3 and 4.

As a whole, Model 5 fit significantly better than the previous models, although the change between Models 4 and 5 was minimal (X^2 change = 0.3). The pseudo R^2 gives a rough idea of variation explained by the model. In this case, the model explained 21% of the variation in Environmental Behavior.

Table 7.19. Comparison of Five Multivariate Models on Latino Environmental Behaviors (N=556)[†]

Variables	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Reduced Model**
			--Odds Ratios--			
Sociodemographics						
1. Age	0.993	0.996	0.998	0.994	0.996	
2. Gender	1.325	1.222	1.281	1.141	1.197	
3. Less than High School	1.024	0.989	0.890	0.963	0.945	
High school or some college (>HS)	0.841	0.841	0.843	0.853	0.844	
4. < $15,000 ($35g+)	1.028	0.744	0.759	0.651	0.670	
$15,000 to $34,999	1.438	1.102	1.035	0.995	1.016	
5. Community (Other)						
Atn		1.593	1.429	1.359	1.401	
BE		2.80**	2.51**	2.52**	2.59**	2.379**
SES		6.98E-10	6.78E-10	5.76E-10	7.03E-10	
Rdg		0.333***	0.275***	0.234***	0.243***	0.257***
Ethnicity (SA)						
7. PR			4.57**	5.14**	5.19**	1.875**
8. OC			2.690	2.94*	3.03*	
9. MX			3.63*	4.06*	4.19*	
10. CA			2.726	2.891	2.851	
11. Time			0.990	1.000	1.000	
12. English			1.020	1.124	1.107	
Constraints & Motivations						
13. Constraints				1.489	0.870	
14. Relax				0.872	0.139	
15. Facilities				0.141	2.083	
Recreation Behaviors				1.925		
16. Appreciative-Slight					1.010	
17. Moderate-Intensive					0.997	
Df	6	10	16	20	22	3
Chi-Square	9.2***	68.8***	83.7***	93.2***	93.5***	67.9***
Nagelkerke R Square	0.022	0.155	0.186	0.206	0.207	0.154

[†] Reference category in parentheses
PR (Puerto Rico); OC (Other Caribbean); MX (Mexico); CA (Central America); SA (South America)
Atn (Allentown); BE (Bethlehem/Easton); HWS (Hazleton/Wilkes-Barre/Scranton); SES (Stroudsburg/East Stroudsburg). HWS & SES were excluded due to insufficient cases.
* = p<0.05; ** = p<0.01; *** = p<0.001

The final model, determined using backward elimination of Wald X^2, indicates only three significant variables. Environmental Behaviors significantly increased for residents from Bethlehem, Reading, and Puerto Ricans. The reduced number of variables caused the X^2 to fall by 26 and the pseudo R^2 decreased to 15%. The significance of Community and Ethnicity variables throughout the analysis, and particularly the reduced model, suggests support for Hypothesis 1 (Environmental Behaviors related to Ethnicity) and Hypothesis 2 (Environmental Behaviors related to Community). The model did not support Hypothesis 3 regarding the relationship between Environmental Behaviors and recreation, possibly owing to the very general measure of Environmental Behavior.

Chapter Summary

This chapter presented the results from univariate, bivariate, and multivariate analyses of both the household and intercept survey data. Findings suggested general support for the conceptual model with significant differences existing among communities and among Latino cultural variables. Reflecting the literature on environmental behaviors, inconsistencies between methods were present.

Univariate analyses described variation in the level and type of recreation and environmental behaviors taken in each community and by each ethnicity. Recreation Activities and Connectivity to nature also varied by Community and Ethnicity. Bivariate analysis of the household survey revealed Environmental Involvement was positively and significantly related to Recreational Location and Recreational Activities. By contrast, Household Environmental Behaviors and Environmental Behaviors in the Locality were positively and significantly related only to Recreational Location. As well, as Environmental Involvement and Household Environmental Behaviors increased, Connectivity also significantly increased. The three types of environmental behaviors were significantly different for residents from Allentown, Reading, and Stroudsburg/East Stroudsburg. They also depended on time spent in the United States and English level.

Bivariate analysis of the intercept survey revealed Environmental Behaviors were related to Community. Regarding Ethnicity, the level of environmental actions decreased for Puerto Ricans. By contrast, South Americans were likely to engage in environmental actions. As well, Environmental

Behaviors scores decreased as respondents spent more time in the United States. Moderate to Intensive recreation activities behaviors, but not Appreciative to Slight activities, were related to Environmental Behaviors.

One of the primary objectives of this analysis was to explore the combined influence of contextual and ethnicity factors on environmental behaviors. OLS of the household survey indicated that all conceptual areas combined to significantly influence behaviors as outlined in Chapter Three. Sociodemographics only influenced the final model for Household Environmental Behaviors, while Community was significant in each of the final models. Connectivity was in the final model for Household Environmental Behaviors and Environmental Behaviors in the Locality. The relationship between Environmental Behaviors and Location of Recreation Behaviors was most apparent in the analysis of Environmental Behaviors in the Locality. By contrast, Recreation Activities were never significant in the final model of any analysis.

As well, logistic regression (using some different measures) indicated the importance of Community factors. Bethlehem was more likely and Reading was less likely than the control group (Other) to engage in pro-environmental activities. There were also significant relationships between Environmental Behaviors, Puerto Rico, and Caribbean countries with South America as the control. In contrast to the bivariate analysis, Puerto Ricans and Mexicans were more likely than South Americans to engage in Environmental Behaviors taking other factors into account. Inconsistencies illustrate the importance of mixed methods research. In particular, qualitative findings can illuminate dissimilarities from the quantitative analysis. The following chapter summarizes conclusions from both the qualitative and quantitative analyses and addresses implications drawn from this research.

CHAPTER 8

CONCLUSIONS AND IMPLICATIONS

This study addressed Latino uses and perceptions of natural resources in Pennsylvania. It is important that local leaders and resource managers have a better understanding of this topic in light of growing Latino constituencies across the Commonwealth. In Chapter Two, a review of the literature suggested Latino uses and perceptions of natural resources might be understood in terms of underlying tension between environmental values/attitudes, community context, and ethnicity. Community characteristics and ethnicity (including assimilation) were hypothesized to influence environmental behaviors in addition to connectivity with nature. Further, I suggested pro-environmental behavior was driven by access to and enjoyment of the outdoors.

This study used multiple methods to bridge community theory, natural resource sociology, and recreation studies. While the analyses presented in this dissertation were not intended to triangulate data, they illustrated how different methods fit together to provide a more complete picture of the phenomenon under study. Semi-structured interviews (N=111) and household surveys were conducted in 11 counties and nine communities in eastern Pennsylvania. Interviews provided an in-depth understanding of how community context and ethnicity influence uses of nature and environmental behaviors. Key informant interviews illuminated intra-Latino cooperation and conflict, a critical need for leadership, the racialization of space, links between nature and cultural identity, and meanings for nature as part of a larger social phenomenon.

The qualitative analysis of these interviews was used to inform the construction of a household survey of 459 respondents. The survey provided perspectives and information from a broader population of Latinos across the study area. Analysis of the survey included general community variables, a broad ethnicity variable, assimilation, connectivity, recreation behaviors, and environmental behaviors. This information was, in turn, communicated to Latino participants of eight facilitated discussions in each community. Facilitated discussion participants agreed or disagreed with the information and provided additional insights. Finally, a park intercept survey was constructed based on knowledge gained from the

three preceding methods. This method provided on-site information about natural resources use. As a result, I was able to explore how Latinos thought about the natural environment where they lived as well as where they recreated. The intercept survey took place in popular "Latino" parks and included 716 Latino and 561 nonLatino respondents from the communities of interest as well as visitors from outside the study area; however, only Latino respondents were included in this dissertation analysis. In contrast to the other analyses, I looked at the influence on environmental behaviors by an assortment of natural resource use variables, ethnicity, assimilation, and community.

Key informants described a strong interest in natural resource use and interest in nature. Despite various individual and community processes that constrained uses and perceptions of natural resources, study participants nonetheless considered the natural environment an important part of their cultural heritage. Successful environmental initiatives that include Latinos should tap into this source of motivation. The primary conclusions of this research are:

(a) More similarities than differences existed among Latino residents regarding nature;

(b) Outdoor recreation influences environmental behaviors independently of activity type;

(c) Connectivity with nature played an important role in all sets of findings; and

(d) The conceptual model was generally supported, although not by all measures or tests.

This chapter summarizes major findings with evidence from the qualitative and quantitative analyses and discusses their implications for environmental policy and park management.

Conclusions

Community Context

Analysis of key informant interviews revealed many Latino residents were attracted to their Pennsylvania communities because they offered a better quality of life than former residences. This included benefits related to environmental aesthetics and outdoor recreation. However, interviews also underscored differences among Latino groups and between Latinos and nonLatinos. Differences were driven by age, gender, country of origin, legal status, and levels of assimilation. Such differences

complicated efforts by leaders to motivate residents for community action. In addition, informants highlighted prejudices within the Latino population as well as those against Latinos more generally.

One of the most striking findings from key informant interviews regarded descriptions of how barriers to community social interactions translated to places where Latinos interacted with nature. Across the study area, informants described study sites as segregated into "Latino" and "nonLatino" neighborhoods. Likewise, specific parks were known as "Latino" and "nonLatino" parks. As suggested by Jane Jacobs (1961: 259), parks can be volatile places for social interaction, and a park's physical location and design can help to determine whether it will be "bustling with activity or a dispirited vacuum." Gobster (1991) noted this has been a seriously neglected issue in park planning and management.

Community interactional field theory focuses on the symbolic communication of interpretations of social and physical spaces in the locality (Bridger 1996). In this study, contrasting meanings associated with different types of parks reinforced opinions that the broader community ignored the needs of local Latinos and that Latino residents were not integrated into the larger community. This closely reflects a study by Solecki and Welch (1995: 94) whose Boston study found that parks were located between neighborhoods distinct in terms of race and class. Such parks acted as boundaries which "also functioned as barriers between neighborhoods and discouraged passage between them." Such "green walls," as the authors called the boundary parks, were often left unkempt and underused. Although informants in Reading, Allentown, and Bethlehem perceived Latino parks as uncared for by local governments, the parks were still heavily used illustrating the importance of parks for Latino residents.

The spatialization of racial interactions to parks extended to state parks where Latinos and nonLatinos recreated in different locations and engaged in different activities. Qualitative data noted Latino visitors preferred picnic areas where they felt comfortable among other visitors and were close to parking, restrooms, grills, and swimming areas. As well, Asians, Blacks, and Whites recreated in their sections of the park. For instance, my field notes during Memorial Day 2009 in Marsh Creek State Park highlighted how Latino visitors dominated the swimming pool and upper picnic area while primarily White visitors were at the lake and lower picnic area.

Besides a physical representation of community divisions, spatial segregation of natural resources created and reinforced notions of shared Latino values. As a result, efforts towards pan-Latino activism persisted despite ethnic differences. This occurred through periodic events perceived as impacting the Latino population as a whole, such as residents uniting after the murder of a Reading police officer. As well, annual festivals celebrated Latino diversity as an element of pan-Latino identity.

Latino informants perceived some local issues as spanning Latino ethnic differences. Intra-Latino relationships meant that Latino concerns were recognized in the community such as drugs, crime, and poor housing. By contrast, informants described a general disinterest in environmental issues, regardless of ethnicity. Informants gave several explanations for this phenomenon, including a Maslovian ordering of basic needs, lack of information, or lack of education.

Qualitative data suggested several other explanations, probably interrelated with socioeconomic status, which previous studies have failed to illuminate. First, informants perceived the broader community as uninterested in environmental issues. Noting the existence of several environmental causes, nonLatino environmentalists and local government officials contradicted this opinion. The inconsistencies underscored findings that Latino residents were not included in some community-wide discussions.

As well, Latino leadership may have overlooked community-wide environmental issues due to a singular focus on issues considered more relevant for Latino constituents. Informants repeatedly implied Latino leaders generally focused on the immediate issues of education, employment, and crime. Despite issues such as poor housing quality and toxic dumping, most leaders did not bring the environment into their advocacy. This was reflected in my review of local Latino newspapers, which paid little attention to the environment over the last several years. The reciprocal effect was that leaders did not bring environmental issues to residents' attention and, in turn, residents did not demand environmental issues be placed on local agendas. In contrast to previous studies which supported hypotheses related to proximity of risk (e.g., Mohai 1990; Whittaker et al. 2003; Williams and Florez 2002), Latinos were uninvolved with local initiatives apparently because they were unaware of the problems. These findings

may reflect Morrison et al. (1972) suggestion that minorities living in polluted environments were accustomed to their environmentally poor situations.

Finally, informants reported Latino residents' disinterest in the environment as associated with the perception that issues such as urban sprawl and conservation were White concerns and therefore irrelevant to the Latino social agenda (also see Steinhart 1991). For example, middle class Whites living in Berks County suburbs were concerned about protecting Hawk Mountain from residential development, while urban residents in the "Latino" neighborhoods worried about crime in the local park. From an interactional perspective, Latino residents' inability to fully integrate into community processes reinforced notions that their concerns were separate from broader community concerns, and vice versa. Informants suggested the importance of wide-spread terms such as global warming and species extinction. However, because they were prohibited from meaningfully contributing to local discourse surrounding such terms, Latino households were likely to attribute causes and mitigations as nonLatino responsibilities.

More generally, these three explanations suggested barriers to community interaction through a scarcity of weak ties. Granovetter (1973) argued that structural stability of community depends on transitory contacts among relative strangers. Weak ties are the essential bridges between any two densely knit social groups having individuals bound by strong ties. In the absence of weak ties, strong ties disrupt the whole of community. In this study, the immigrant populations of each community functioned similar to rural communities which have an over abundance of strong ties, but few weak ties. Distance impacts the relative scarcity of weak ties in rural places. In the study sites, weak ties were associated with socially constructed boundaries in the landscape and an inability of Latino residents to interact with nonLatino residents. This was true regarding daily interactions such as visiting the super market, visiting a local park, as well as interactions over issues of community-wide concern.

By contrast, strong within-group ties among Mexicans, or Puerto Ricans, or Dominicans continually reinforced a focus on issues relevant to the particular groups. For example, Mexicans were most concerned about immigration, Puerto Ricans were most concerned about crime, and Dominicans

were highly concerned about local commerce. Some interactions between Latino groups resulted in recognition of some pan-Latino interests. However, according to informants, these were minimal and primarily limited to social events.

Interactional theory suggests the omnipresence of weak ties (Wilkinson 1991). Thus, understandings of shared interests may increase as the population grows and social structures with weak ties develop (Hauser 1965; Hawley 1971). However, without full integration into the larger community, social attachments will likely remain fixed within the Latino sectors instead of including nonLatino areas of the local landscape.

Key informant data indicated an association between community social interactions and lack of community-wide environmental concern and behaviors. As well, survey findings illustrated differences in environmental behaviors between communities. Household Environmental Behaviors and in the Locality were both significantly different between sites. The bivaraite analysis showed Behaviors in the Locality decreased for Allentown and increased for Reading. Household Environmental Behaviors decreased for Allentown and increased for Stroudsburg/East Stroudsburg. Environmental Involvement was not significantly different, possibly reflecting extant social conditions in each site which made interactions for environmental causes difficult. However, net of other factors, Hazleton/Wilkes-Barre/Scranton was positively related to Environmental Involvement, while Allentown and Bethlehem/Easton were negatively related to Behaviors in the Locality and in the Home. The intercept survey also indicated a relationship between Community and Environmental Behaviors, although in a contrasting manner. Park visitors from Bethlehem/Easton were more likely than visitors from areas outside the study region to engage in Environmental Behaviors, while Reading residents were less likely.

The household survey indicated no significant bivariate relationship with region (as a general measure of Ethnicity). However, intercept findings showed a significant bivariate relationship between Environmental Behaviors and Puerto Ricans, South Americans, and Time spent in the United States. In multivariate analyses, the household survey data indicated Environmental Involvement increased for Central Americans, South Americans, and English speakers, net other factors. Household environmental

behaviors decreased for Puerto Ricans and increased with increasing levels of English. For park visitors who participated in the intercept survey, Environmental Behaviors were more likely for Puerto Ricans, Mexicans, and other Caribbean countries than for South Americans.

Thus, certain environmental activities varied by Latino ethnicity and community (Hypotheses 1 an 2). For other environmental behaviors, community and ethnicity showed no predictive ability suggesting the importance of specifying environmental behaviors in analyses (also see Mohai 1990). Although environmental behaviors varied, discussions with key informants illuminated ways that community and ethnicity accounted for similarities in how Latino participants thought about nature. The next section summarizes in greater detail the similarities between localities, Latino ethnicities, and environmental values and behaviors.

Connectivity with Nature

Qualitative data suggested nature had important sociocultural meanings for Latinos. The values behind these meanings were different from those commonly applied to environmental behaviors, such as altruism, self-interest, and traditionalism (Deitz et al. 2005; Dutcher et al. 2007; Schwartz 1977; Tarrant and Cordell 1997). Through relationships between various Latino groups (such as the young and the elderly, natives and immigrants, urban and rural) natural resources take on anthropocentric significance. As a result, nature was a social experience rather than an abstract entity separate from human beings. Unlike anthropocentric values linked to resource exploitation, however, nature was meant to be cared for by humans. This is not to say Latinos possessed more positive environmental values than non-Latinos, but that Latino meanings for nature were dependent on the social experience. As explained further below, such perceptions can be attributed to: (a) relatively recent rural-based cultural backgrounds; (b) real or imagined memories of homeland; and (c) communication of subversive feelings towards inadequate urban-ethnic experiences.

Nature as a social experience closely reflects works by Lynch (1993) and Klindienst (2006). In "The Garden and the Sea," Barbara Deutsch Lynch noted tentative steps taken by Latinos to reclaim New York City's hostile environment. Puerto Rican casitas, or neighborhood clubs, were constructed to

represent rural dwellings and landscapes replete with chickens and vegetable gardens on empty lots in the South Bronx and other Latino neighborhoods. Lynch noted that these activities attempted to recreate nature based on nostalgic symbolisms of rural living in the homeland. Like a garden, the ideal natural landscape for Latinos was peopled and productive – a reflection of and in partnership with community. Definitions of ethnicity therefore were intricately linked with imagined landscapes of the past, the forces that changed them and impelled migration, as well as the new landscapes in which cultural adjustments were made (also see DuPuis and Vandergeest 1996; Flores 2000). Homeland was one of several ideal landscapes, real and imagined, that served as standards against which environmental reality could be judged.

In *The Earth Knows My Name*, Patricia Klindienst's conversations with Latino immigrants revealed values akin to Leopold's land ethic. At least in the context of gardening, boundaries of the community were extended beyond just humans to include the land. Participants spoke about the spiritual power of interacting with nature. Through gardening, collective stories emerged about the loss or suppression of important elements from ethnic cultures, including food, language, and family customs. In such a way, these stories were physically embodied in gardens and nature. Klindienst (2006: 242) wrote:

> [The garden] is where they [Latino immigrants] affirmed a sense of who they are and where they come from. When they were compelled to make a new life in a place where no one spoke their language or knew how to pronounce their names, the earth responded to their knowing hands.

The works by Lynch and Klindienst reflect Dutcher et al.'s (2004; 2007) notion of connectivity. Connectivity encompasses both emotional attachments and physical dependence on nature by stressing feelings of being connected to the whole and empathy towards all forms of life. Such connectivity entails the transcendence on self and a focus on family, cultural group, and community. Disconnectedness from nature amounts to alienation from nature just as a lack of interaction with people amounts to alienation from the local society.

Like these previous studies, participants in the Pennsylvania study illustrated values associated with Connectivity with nature. Key informants repeatedly mentioned the use of open space to reaffirm ethnic identity. Informants called Latinos “outdoor people” and associated with life in tropical climates and images of rural peasant life. As Lynch (1993) noted, such images were nostalgic and idealized. However, they led to attitudes that the human role in the environment was to care for the environment as the environment cares for humans. “I feel a oneness with nature” and “Caring for nature is an important part of being Latino” were two of the strongest indicators of Connectivity in the household survey. This went beyond utilitarian views of protecting nature for continued human survival. Rather, it represented symbiosis between humans and nature.

As well, ethnic identification with nature using idealized homelands presented commentary on the inadequacies of the urban, concrete environment. Interacting with nature was an important part of Latino identity but was often subdued by local social circumstances. Idealized landscapes contrasted with the livelihood struggles and otherness experienced by many Latino residents. When the human community failed them, the idealized landscape did not. The idealized landscape as experienced in outdoor areas was where they reclaimed a free and equal space. It was not only about the food, but also a way out of a rented apartment, segregated community, and served the important role of being a stress reliever.

As a critical component of ethnic identity, residents could openly express pride in who they were and where they came from. This was why, as suggested by the household survey, playing music, table games, and sports were so important to older respondents. This process occurred by sharing nature with others. Thus, the joy of being Puerto Rican, or Mexican, or Salvadoran was expressed through Connectivity with nature; and, seeking that joy was justifiable only when it could bring benefit to the collective (i.e., transcendence of the self). To share one’s culture in a park was to be drawn out of isolation (also see discussions by Duany 2002: 213 and Flores 2000: 73 on *Insularismo* and cultural identity formation). As one informant said, it was a way of shouting out “I want to keep my culture. I want to give my traditions to my children and leave them with this gift, this pride” (604).

The household survey provides another look at Connectivity, indicating levels of Connectivity varied by community. Allentown had the highest level of Connectivity with nature and Bethlehem/Easton had the lowest. Bivariate analysis revealed Connectivity increasing with age, for men, and those with a liberal ideology. Connectivity was negatively related to respondents from Bethlehem/Easton and Reading but positively related to those from Allentown and Hazleton/Wilkes-Barre/Scranton.

In the bivariate aggregate analysis, Connectivity was significantly and positively related to all three environmental behavior measures. As Environmental Involvement, pro-environmental behaviors in the Household, and pro-environmental behaviors in the Locality increased with increasing Connectivity scores. Reflecting qualitative findings, Connectivity was not significantly related to Ethnicity. The final multivariate models did not show Connectivity significantly related to Involvement, net of other influences. Connectivity was, however, related to pro-environmental behaviors in the Household and in the Locality. For Environmental Behaviors in the Locality, Connectivity explained these types of behaviors over and above the standard sociodemographic variables. Connectivity predicted Household Behaviors along with age and gender.

Thus, the data partially supported Hypothesis 4 which proposed that higher levels of connectivity lead to higher levels of environmental behavior. The type of environmental behavior was important to the conclusion. Environmental Involvement includes interactions with other residents and organizations. As such, it is reasonable to suggest that local social barriers impeded the values that underlay Connectivity and ultimately led to specific pro-environmental behaviors. Further, the findings suggested environmental attitudes, concerns, and behaviors were not simply a function of altruism, awareness of environmental consequences, or paradigm shifts to post-materialist or universal values as concluded by previous studies (Dunlap et al. 2000; Inglehart 1990; Schwartz et al. 2004; Stern et al. 1993). Instead, environmental perspectives for Latinos in eastern Pennsylvania were shaped by community, ethnicity, and assimilation experiences.

Outdoor Recreation and Environmental Behaviors

A major objective of this research was to identify Latino uses of natural areas. In turn, outdoor recreation was predicted to have a positive effect on environmental behaviors. Qualitative data indicated the types of activities and locations where Latinos participated in outdoor activities. Interviews also illuminated various constraints and motivations. In general, informants said Latino recreationists preferred passive activities such as picnicking, hanging out, relaxing, and taking the kids to the playground. Fishing was popular; but, backpacking, camping, and hunting were seldom mentioned (also see Dwyer 1994). As well, Latinos reportedly recreated on weekends and during warmer months, reflecting previous observations of Latino recreation patterns (Hutchison 1987). Informants said state parks were popular; however, local parks were more commonly visited due to convenience and levels of comfort. Informants said Latino residents tended to recognize different parks according to proximity to their home (i.e., local/neighborhood park versus non-local park) and did not distinguish between park ownership groups (i.e., state, city, or county).

Recreation behaviors were measured in both the household and intercept surveys. In the household survey, Reading and Allentown residents had high recreation scores relative to other communities. Reflecting qualitative findings, passive activities were the most common recreation types in state and local parks. Activities tended to significantly differ between sites; however, Location of recreation activities did not significantly differ between communities. As well, both types of recreation behavior were related to English speaking ability and Recreation Activities score was related to education in the bivariate analysis.

A factor analysis of intercept survey data revealed two types of recreation behaviors: Appreciative to Slight and Moderate to Intensive. There was no significant relationship between recreation and Community in the bivariate analysis of the aggregate dataset. As well, neither recreation type significantly differed among Ethnicities in the univariate analysis and there were no bivariate relationships. Reflecting key informant discussions and the household survey, Appreciative to Slight behaviors were most commonly reported with the most popular being hanging out, walking, and

picnicking. Except for going to the beach, no activity from either recreation type was significantly different based on Ethnicity. However, both types were associated with English level as in the household survey supporting previous studies using English as a measure of assimilation (Carr and Williams 1993; Floyd and Gramann 1993).

Key informants discussed various reasons for visiting outdoor places, including relaxation, enjoying fresh air, exercising, and letting the kids blow off steam. Environmental education was seldom a specific reason for visiting outdoor areas, although informants said Latinos would probably be interested in learning more about the environment. Most importantly, the outdoors was a place to socialize with family and friends. Parks were places where Latinos could feel at home – where individuals could be with people who spoke their language, looked like them, and shared their food and other customs. Especially during warm weather, parks recreated landscapes of central plazas, haciendas, and other open spaces found in Latino homelands. This resulted in the ability to retain and celebrate ethnic identity. Previous studies focusing on the ethnicity hypothesis have found similar results (Carr and Williams 1993; Floyd and Gramann 1993; Irwin et al. 1990). This research adds to previous literature regarding the finding that the benefits and motivations for being outdoors were qualitatively linked to Connectivity with nature.

The intercept survey provided additional exploration of motivations for park recreation. Factor analysis revealed two sets of motivations: those related to Relaxing and those related to Facilities. Nearly 100% of Latino respondents cited being with family, enjoying fresh air, and relaxing as primary motivations and this did not significantly differ between ethnicities. As with past studies (Bass et al.1993; Gramann 1996; Irwin et al.1990), Facilities were important to Latino visitors regardless of ethnicity. Of the facility-related motivations, crowding was least important and a place for the kids to play was most important. This underscored the importance of outdoor places as social spaces. More visitors did not necessarily take away from their enjoyment of the park. Relaxation-related motivations were related to age, gender, and income while Facilities was related only to age. Finally, those who participated in Moderate to Intensive recreation activities were motivated by both Relaxation- and Facilities-related motivations in the bivariate analysis.

Informants mentioned traditional Constraints to participating in outdoor recreation. These included lack of time, money, and transportation, and distance among others. The univariate analysis showed recreation constraints significantly differed between ethnicities. As well, women had different constraints from men. Key informants suggested this included caring for children while at the park and needing the husband's permission to visit a park. In addition, there was a general lack of information about state parks. Poor maintenance, high fees, no transportation, and nothing to do were all common constraints. Feelings of discomfort was one of two items to significantly differ from the other measures of Constraints in the intercept survey. In the bivariate analysis, Constraints decreased for those who participated in Moderate to Intensive activities. Constraints were not related to Latino Ethnicity.

Phillip (1990: 397) noted that leisure activities have "embedded racial 'information' associated with them in some way." It is no surprise, therefore, that key informants underscored feelings of discomfort and discrimination in Latino recreation experiences in state parks and local parks. The mixed-methods approach of this study illuminates previous surveys which could not explain why feelings of prejudice and discrimination were important predictors of recreation behaviors (Woodard 1988). In addition to direct prejudice and discrimination, this study shows how indirect prejudice and discrimination in the form of spatial segregation of park activities affects outdoor activities. Informants also indicated constraints such as lack of maintenance and crime were associated with perceptions of discrimination.

As a result, racial meaning was given to some outdoor areas. Despite the importance of nature and outdoor recreation for Latinos, racial interactions impeded their enjoyment of natural areas because nature was a social experience. This conclusion is noteworthy since Latino residents did not tend to distinguish between parks managed by local or state governments. In other words, feelings of discrimination experienced in local parks carried over into perceptions of state parks. There has been little research on discrimination in recreation settings (Floyd 1998). The strength of findings from this study suggests the importance of continued investigation of the discrimination hypothesis.

Location of recreation activities was significantly related to all three types of environmental behaviors in the bivariate aggregate dataset of the household survey while the composite score for Recreation Activities was related only to Environment Involvement. By comparison, the logistic regression analysis showed Environmental Behaviors related to Moderate to Intensive recreation activities. There was no relationship to Appreciative to Slight activities, underscoring the importance of differentiating between recreation activity types. Neither motivations nor constraints were significantly related to Environmental Behaviors in the bivariate or multivariate analyses.

When Recreation Location was separated into the four distinct categories in the multivariate analysis, Recreation Location was significant in two analyses while Recreation Activities was not significant in any analysis overall. Recreation in both state and local parks was related to Environmental Involvement and Behaviors in the Locality (reference = participation in state parks only). The separate variables of participation in local parks and participation in state parks were related to Environmental Behaviors in the Locality but not Household Environmental Behaviors or Environmental Involvement. Thus, the household data partially supports the proposition that recreation will lead to behaviors net of Constraints and motivations (Hypothesis 3). In contrast to the household survey, neither Appreciative to Slight recreation activities nor Moderate to Intensive recreation activities predicted Environmental Behaviors, net other variables. This contradiction between surveys may have resulted from an over-generalized measure of environmental behaviors in the intercept survey and the composite measures of recreation behaviors (Deitz et al. 2005; Mohai 1990).

Finally, although this study did not focus on park management, three findings are worth mentioning. First, several state and local park managers I spoke to were clearly more focused on policing public lands rather than resource stewardship for a diverse Commonwealth population. Reflecting Phillip (1990), these mangers were totally unaware of discrimination or the presence of discomfort by Latinos due to racial interactions. Second, a limited number of park managers were actively involved in introducing non-White groups to the outdoors. These managers tended to focus their management philosophy on positive recreation experiences and environmental education rather than simply policing

the park. Third, most state park managers perceived extreme increases in Latino visitation. However, Latino key informants said state park visitation was relatively uncommon. Confirming this findings, only two of every ten household survey respondents (Table 4.6) had visited a state park in the last year and 40% of intercept survey participants had visited only one state park in the last year.

Conceptual Model

Chapter Three outlined the theoretical foundations underpinning the proposed relationships in the model. In this model, different sets of environmental behaviors were shown to be influenced by Connectivity with nature, recreation activities, community, sociodemographics, and Latino ethnicity. In general, sociodemographics did not play an influential role in any of the models. However, models from both surveys supported the conceptual model than the intercept survey models, although all models only weakly explained the variation in environmental behaviors.

The highest adjusted R^2 was 13% for Environmental Involvement. This R^2 means the variables explained very little of the variation in environmental behaviors. However, analyses for each dependent variable of the household survey suggested the relevance of ethnicity, community, connectivity, and recreation behaviors to environmental behaviors. The full model of the intercept survey explained 21% environmental behaviors, using a pseudo-R^2 as a rough indication of variance. Environmental behaviors in the intercept survey may have been poorly operationalized for statistical analysis. Participants indicated their specific environmental behaviors as an open-ended response which was not evaluated in this dissertation.

Implications

The notion of natural resource management for the benefit of the greater good is over 100 years old. Since the beginning, underlying philosophies of resource management have been driven by an ethnocentric perspective based on European-American perspectives. In light of increasing population and cultural diversity, the Commonwealth's public natural areas cannot be effectively managed without considering the needs of *all* Commonwealth residents. As a result, it is important to identify and understand how non-White groups use and perceive natural resources.

The findings lead to several implications. The theoretical model's failure to fully explain environmental behaviors for each analysis underscores the need to integrate qualitative and quantitative methods in research designs. Operationalization of variables has long been a challenge for survey researchers studying environmental attitudes and behaviors (Deitz et al. 2005). Indeed, a major reason for inconsistent findings among studies is associated with the various conceptualizations and measures of relevant components. As well, it has been argued that people have difficulty interpreting their environmental values or translating them into actions due to societal constraints (Kempton et al. 1995). The incorporation of qualitative data provides context to and explanation of the inconsistencies found in the plethora of survey data.

A major theoretical implication is the relevance of community and ethnicity in how Latinos interact with natural resources. Ethnicity was associated with connectivity to explain environmental values. Community social interactions, including interactional barriers with the nonLatino population and the within the Latino population, produced both constraints and motivations for Latino relationships with natural areas. Measures must tap the competing processes of connectivity with nature and social interactions. Community and ethnicity cannot be ignored when examining environmental attitudes and behaviors as it has often been in past research (Deitz et al. 2005; Lynch 1993; Floyd 1999).

Additional research is needed that focuses on some specific conclusions uncovered in this study. First, prejudice and discrimination underlie much of the data in this research. Feelings of discomfort, prejudice, and discrimination in recreation settings must be explored further. Such studies should focus on symbolic as well as direct forms of discrimination. As well, research is needed that explores processes of discriminatory practices in the community extending to outdoor places and activities which, in turn, influence meanings for community and nature. Such research is important given that Latinos in this study did not differentiate between park management entities.

Another valuable avenue for continued research relates to connectivity with nature. Connectivity was an important factor in Latinos' perceptions and uses of natural resources because nature and people exist in a common community in which space and society affect each other (Leopold 1987; Wilkinson

1991). Connectivity can lead to targeted programming that involves Latinos in outdoor recreation and environmental initiatives to benefit the broader community. Instead of being a "green wall," parks have the potential to be "green magnets" by uniting residents of different backgrounds to interact through their relationships with the nature.

An important implication of this study is that public lands should not be managed according to outdated productivist models. Such models focus on commodity management of the resource of which the primary activity is policing resource users. Traditionally, managers have argued productivist models equitably allowed users to enjoy the resources regardless of individual background. Resource management has addressed multiple uses of resources, but has largely ignored multiple perspectives towards nature. Despite the persistence of this model, it is widely understood to reflect philosophies by individuals of European descent (Cronon 1995; Schelhas 2002). However, the wilderness celebrated by Henry David Thoreau, John Muir, Aldo Leopold, and Edward Abbey is very different from nature described by Latinos here and in a limited number of other studies (Klindienst 2006; Lynch 1993; Merchant 2003; Peña 1992; Pulido 1996).

A more holistic approach needs to consider diverse environmental values and connections to nature. Policy must go beyond political rhetoric to truthfully make public natural areas comfortable and inviting to Latinos and other racial/ethnic groups. This requires more than sensitivity training for land managers. Several authors (e.g., Blumer 1958; Bobo and Hutchings 1996; Wilson 1996) have argued deeply engrained values about race and social position are formed from early life experiences. Thus, they are unlikely to change through mandatory attendance at training workshops.

More effective policy might include concerted efforts to hire managers with diverse sociodemographic backgrounds. Resource management that incorporates multiple perspectives about nature must be driven by representatives of those perspectives. In addition to targeted hiring, this occurs largely through programs designed so that younger generations of underserved groups become interested in natural resources. As well, current managers should show evidence of creating opportunities for participation by diverse visitors and receive reprisal if they do not. Those managers who have targeted

programming to inner city residents should be lauded and encouraged to continue developing the programs.

Sincere efforts to involve Latino groups in outdoor recreation and environmental initiatives must use a targeted outreach approach. Attention should focus on Latino organizations. This means promoting programming through various Latino groups rather than contacting only one organization which may represent a particular Latino ethnicity. Collaborative programming must involve Latino leaders. This would not only strengthen relationships with natural areas, but have the additional benefit of strengthening Latino leadership in the community. Such activities are ideally suited for county extension personnel as well as environmental educators.

Programming would most likely focus on providing transportation to parks, establishing resident park adoption groups, and environmental programming. Latino organizations would add cultural relevance and sensitivity to the programming. For example, organizations can collaborate with park managers to develop signage and materials in Spanish. As key informants noted, this would include park regulations as well as historical information about the park and common names of plants in Spanish. According to key informants, such illustrations of cultural sensitivity makes even English-speaking Latinos feel more comfortable in the recreational setting. Working with Latino organizations to present activities representing Latino cultural events during the winter would help get Latinos into nature during the colder months. Other programs might include creating more opportunities for Latino recreationists to angle and hunt. Such activities are consistent with Latino notions of connectivity to nature.

Finally, effective targeted outreach does not apply a one size fits all strategy. Environmental protection and natural resource management embedded in an Anglo-European context suffer from an overreliance on technical terminology and tend to overlook the social setting. Such a discourse legitimizes the system which norms originate from and backfires in other cultural settings. Environmentalists and park managers must remember this system has created constraints and barriers to underserved audiences in the communities where they live. Thus, programming must acknowledge the community context where Latino residents have their daily experiences.

CHAPTER 9

RECOMMENDATIONS

This study suggests that Hispanics exhibit a widespread interest in the natural environment. However, as discussed in Chapter Eight, a targeted approach is necessary in order to encourage and enhance Hispanics' optimal use of natural areas. Such an approach fosters the belief that the Commonwealth's natural heritage belongs to all Americans—including Hispanics—and therefore all residents share a duty to help protect the environment. Based on the conclusions and implications, this chapter suggests several management and policy recommendations.

1. Current Successes of PA-DCNR Bureau of Parks

Interest in parks. Findings from the study indicate a strong interest by Hispanics in state park visitation. Currently, state parks provide many facilities appreciated by Hispanic visitors. Among the most important are picnic areas, sports fields, and swimming areas. Picnic areas and swimming pools are especially valued due to their family-oriented benefits. As well, State Parks provide nature-based experiences which are an important part of Hispanic life. Finally, study participants recognized the value of physical activities for health. State parks were valued as places where Hispanics could exercise, relax, and enjoy nature in well-maintained, safe facilities.

Programming. Findings indicated the success of several programming initiatives. Although Hispanic study participants indicated low participation in environmental education programming compared to non-Hispanics, they also suggested a strong interest in it. Programs offered by the environmental education centers at the state facilities of Nolde Forest and Jacobsburg were also mentioned by participants. Both centers provided programs serving inner-city visitors. In addition to providing environmental education programs in urban schools, the Urban E program at Nolde and EcoCamp at Jacobsburg were mentioned as providing transportation so that inner-city kids could learn about the environment. Hispanic visitation reportedly increased because such programs created awareness about the places and gave residents first-hand experience with state parks. Continuing to concentrate such

activities around the area of Reading may prove immediately successful because Reading Hispanics tend to visit state parks more than residents from other places in the study area.

2. Recommendations to PA-DCNR Bureau of Parks: Enhancing Hispanic Uses and Knowledge of Natural Resources through Improvements in Facilities, Staff Training, and Activities

Recommendation 2.1: Facilities. Findings from the study indicate several simple facilities modifications which, in concert with other actions, would increase Hispanic visitation and make them more comfortable in state parks. Some of these suggestions were specifically mentioned by study participants. Recommendations are presented as "action steps" which should be accomplished through partnerships with local Hispanic organizations or park volunteer groups.

Action Step 2.1.a: DCNR should have signs in Spanish. Feeling discomfort around non-Hispanic visitors, lack of information about the park, and lack of awareness about what to do were some of the primary constraints to state park use. Providing information in Spanish is an important step in mediating such constraints. Many study participants spoke English and most agreed with the importance of learning English. However, official communication in Spanish illustrates the state government's appreciation and respect for Hispanic residents. Simply providing rules and regulations in Spanish is insufficient to achieving this recommendation. Further it is considered offensive when no other park information is provided in Spanish. Hispanic study participants indicated a desire for Spanish-language plant descriptions and uses, information about local geography, and other interests. As noted below, DCNR could partner with local Hispanic groups to generate information about flora, fauna, geography, and cultural history in Spanish. As well, it is important to remember that information should be culturally relevant in addition to providing accurate translation.

Action Step 2.1.b: Improve picnic areas. Picnicking was one of the most important activities for Hispanic participants because it brings together family and offers an opportunity to socialize and celebrate unique cultural aspects of each Hispanic nationality. The importance of picnicking is underscored by findings suggesting that going to state parks was only worthwhile when participants could share the experience as a group. Simple facility modifications such as moveable picnic tables

would accommodate larger groups. As well, Hispanics tend to spend at least half a day in the park. As a result, study participants suggested placing larger grills in some facilities to accommodate all-day use and large groups. Hispanic visitors may be unaware of the environmental consequences of littering or they think park management is responsible for trash clean-up. Increased numbers of garbage receptacles (particularly during the summer months) would also benefit this group of visitors, as well as protect the resource.

Action Step 2.1.c: Provide ethnic food in concessions. Study participants suggested providing traditional Hispanic food in concession areas. Possible food concessions include fruits as well as prepared foods. Prepared foods could be purchased from local Hispanic providers. If DCNR is unable to continuously provide Hispanic food for sale, one or two weekends per month during the summer at parks visited by Hispanics would suffice. Such food concessions would also introduce non-Hispanics to Hispanic culture and provide a more welcoming outdoor experience for diverse groups.

Action Step 2.1.d: Provide more sports facilities. Several Hispanic participants suggested the need for more sports facilities, particularly soccer and baseball fields.

Recommendation 2.2: Staff/Management. Findings suggest recommendations to improve interactions between park staff and Hispanic visitors. Such actions would help Hispanics feel more comfortable using state parks while more effectively protecting the resources. It is worth noting that these actions require consistent and long-term implementation to be effective.

Action Step 2.2.a: Provide sessions on Hispanics during Ranger Block Training. Provide a targeted session about Hispanic uses of parks. The session would include findings from this study, information about parks programs around the country that target specific race/ethnic groups, and speakers knowledgeable about local Hispanic populations and/or Hispanics and natural resources. For example, speakers may include a local Hispanic leader or a program director from the National Parks which has targeted Hispanics users. Such activities may help develop cultural sensitivity among staff members who are reticent about proactive policies targeting minority groups.

Action Step 2.2.b: Provide sensitivity training. Sensitivity training has been suggested as a method of developing cultural awareness among parks staff. Several theories of racial interactions in the workplace suggest sensitivity training must be accompanied by positive and negative incentives as well as meaningful social experiences with members of the other group in order to be effective. In other words, staff must interact with Hispanics either in parks or in Hispanic communities. This may take place through informal activities or through visits to Hispanic organizations.

Action Step 2.2.c: Create awareness about Hispanic gangs. Qualitative findings indicated Hispanic gang members visit parks for recreation purposes. As with any other group of visitors, disagreement occasionally occurs between individuals. Checkpoints during peak times will discourage park access by armed gang members. However, gang members tend to visit the park with their family group, reflecting the main reason for visiting state parks. Possibly through Block Training, parks staff should recognize this visitation motive. It is more likely that very few Hispanic visitors have any gang affiliation.

Action Step 2.2.d: Provide Spanish classes. Hispanic culture emphasizes personal social interaction. As such, DCNR should consider basic Spanish language training for staff located in parks frequented by Hispanic visitors. Such training would be voluntary and could be facilitated at low cost by partnership with local Hispanic organizations and volunteers. As discussed above, even a rudimentary use of Spanish would enhance park experiences for Spanish-speaking and English-speaking Hispanics by demonstrating DCNR's commitment to cultural diversity. Communication with staff using basic Spanish would also help Hispanic visitors better understand the role of park management and responsibilities of visitors.

Action Step 2.2.e: Encourage staff interactions with Hispanics. Qualitative findings suggest park management often fails to interact with Hispanic visitors except during policing activities. Given the cultural appreciation for personal interaction, park staff should be encouraged to greet visitors, offer information, and verbally offer assistance if needed. Such minimal symbols of hospitality will go far in creating a welcoming environment for Hispanics. Hispanics in Pennsylvania primarily

communicate through social networks. Hispanic visitation will increase as word spreads about the hospitality of park staff.

Recommendation 2.3: Activities. Questions throughout the study directly addressed activity preferences and needs. Findings range from enhancing current activities to providing information about and opportunities for new activities.

Action Step 2.3.a: Targeted environmental education. Hispanic survey participants indicated strong interest in environmental education. DCNR should provide bilingual and Spanish environmental education programming. Hispanic study participants noted they tend to visit parks with extended family. Bilingual programs would enable participation by multiple generations who speak various levels of Spanish. Such programming would also acknowledge DCNR's understanding of park visitation as a social experience for Hispanics. As well, Hispanic facilitators would also contribute to successful programming by contributing to the material being culturally relevant. Hispanic facilitators would also more freely interact with Hispanic participants who tend to be more responsive to open conversations than lecture formats. In addition to rules and regulations in printed Spanish, environmental education is needed to make park visitors aware of the environmental consequences of littering.

Action Step 2.3.b: Provide classes. Two characteristics stand out regarding Hispanic outdoor activity preferences. First, Hispanics often desire structured activities facilitated by park staff. Second, education is very important. In addition to learning about environmental issues, participants recommended classes on tree and animal identification, horticulture, uses of forest products. Participants were interested in learning how to play sports not common to Hispanic audiences such as tennis and ice skating. Teen programs were frequently mentioned. Participants were also interested in learning to camp and participate in other outdoor programs such as hunting, swimming, and horseback riding. For Hispanics of lower socioeconomic status, classes are desired which contribute to successful completion of activity goals because activities such as camping and horseback riding

require significant initial investments. While non-Hispanic park visitors may learn such activities as youth through clubs or school, many Hispanic visitors do not have such opportunities.

Action Step 2.3.c: Encourage social activities. Because park visitation is primarily a social experience, DCNR should encourage social activities to enhance Hispanic park experiences. The following Action Steps more specifically indicate activities relevant for Hispanic park users.

Action Step: Encourage winter activities. In general, Hispanics visit state parks on weekends during the summer. However, study participants indicated an interest in visiting state parks during the winter if their preferred activities were available. State parks should encourage winter visitation by providing outdoor facilities where Hispanics could participate in cultural festivals which occur during the winter months. Some of these may include festivals and New Year's Eve celebrations. Additional activities can be identified through Hispanic organizations. More traditional outdoor activities during winter can be encouraged through targeted programming for local Hispanic organizations.

Action Step: Encourage sporting events. On any given Saturday or Sunday during the warmer months, Hispanics can be found playing sports in parks. Some members of the family play while others relax, eat, and socialize. After working double or triple shifts and living in crowded urban quarters, playing sports is uplifting. To illustrate DCNR's interest in Hispanic activities, park manages can encourage the organization of "Soccer Sundays" and other types of day-long or weekend-long tournaments. Such tournaments could focus only on Hispanic groups – the language barrier, registration costs, and the desire to be with friends and fellow countrymen have kept Latino immigrants away from traditional U.S. soccer leagues. Or, tournaments could involve non-Hispanics in an effort to encourage interaction between the two groups. In one example of such an effort, City Parks of Tempe Arizona partners with Food City Supermarkets to sponsor La Copa Food City, an annual soccer tournament involving some 96 Hispanic teams.

Action Step: Encourage festivals in parks. Because being outdoors has cultural meaning for Hispanics, many Hispanic celebrations take place outdoors in addition to winter festivals.

Through targeted marketing and local partnerships DCNR is in an excellent position to provide the primary destinations for Hispanic birthdays, weddings, and baptisms, and family reunions. Survey participants described their Hispanic neighbors as brand loyal. A targeted approach to informing Hispanics about the benefits of parks for use in social activities will result in continuous and long-term clientele. Lane Manor Park in Prince George's County, Maryland is a good example of an east coast park which holds an annual Hispanic Festival. The activity attracts 10,000 to 15,000 people from the DC/Maryland/ Virginia metro area to celebrate Hispanic culture and heritage. Activities include live entertainment, dance performers, ethnic foods, interactive children's area, carnival rides and games, craft booths, a teen area, exhibitors/displays, face painting, music, and pony rides. Smaller scale activities take place in city parks in Scranton, Reading, Allentown, and Bethlehem.

Action Step: Partner with recreation groups. DCNR is in a unique position to facilitate opportunities for collaboration between local Hispanic organizations and outdoor recreation groups such as Trout Unlimited, the Appalachian Trail Club, local garden clubs, and birding clubs. In this way, state parks can offer additional opportunities for Hispanics to experience natural resources through new activities.

Action Step: Promote park adoption by Hispanic groups. A basic method of increasing Hispanic use and appreciation of natural resources involves individual investment in parks. As such, DCNR should seek out Hispanic organizations interested in adopting a state park or park area to take part in volunteer activities similarly to actions by Scouts and other residents groups. This activity would also foster positive volunteer experiences within the Hispanic population.

3. Recommendations: Enhancing Hispanic Uses and Knowledge of Natural Resources through Policy

Recommendation 3.1: Study participants repeatedly mentioned Pennsylvania as unwelcoming to Hispanics. Such comments were underscored by well-known events in Hazelton and Shenandoah considered anti-Hispanic. This is a major problem for the state, especially considering the increasing political and market power of this demographic group. DCNR is in a unique position to demonstrate the

Commonwealth's good will toward the Hispanic constituency in non-controversial way. As this study illustrates, Hispanics highly value public lands. DCNR should exploit this quality to encourage "brand loyalty" among Hispanic residents toward Pennsylvania, particularly State Parks. In the process, DCNR will foster the general public's awareness, understanding, and appreciation for Hispanic culture.

Recommendation 3.2: Partner with Hispanic organizations. This study indicates the importance of local Hispanic organizations. More than any other group, such organizations provide links between government, non-profit services, and Hispanic residents. Study participants suggested the best way to reach out to the Hispanic population is through community associations. Our recommendations (including many of the recommendations above) should include cooperation with Hispanic leaders and organizations. In doing so, it is important to reach out to a variety of Hispanic organizations, including those targeting Mexicans, Puerto Ricans, and Dominicans.

Action Step 3.2.a: Collaborate with GACLA. An immediate action DCNR can take regarding collaboration with Hispanic groups is to contact the Governor's Advisory Commission on Latino Affairs. This governmental organization is linked to a broad network of local Hispanic organizations across the state. DCNR and GACLA should begin discussions by identifying effective ways to communicate with the Hispanic population about parks and natural resources.

Action Step 3.2.b: Collaborate with local Hispanic organizations. Personal interaction and showing respect is critical when targeting the Hispanic population. Further, it is important to consider cultural relevance in each policy-decision that affects Hispanic groups. Parks with high rates of Hispanic visitation should partner with local Hispanic organizations when developing programming and considering the best ways to communicate rules and regulations. Such collaboration must be on-going. These local Hispanic advocacy organizations participated in this study and include: (1) Daniel Torres Hispanic Center of Reading and Berks County; (2) Shooting Star; (3) Community Action Development Corporation; (4) Council of Spanish Speaking Organizations of the Lehigh Valley; (5) Hispanic-American Organization of the Lehigh Valley; (6) Casa Guadalupe Center; Hazleton Area Latino Organization; (7) Latino American Alliance of Northeast Pennsylvania; (8) Latin Cultural

Diversity Center; and (9) Pennsylvania Association of Latino Organizations. Initial efforts in the study area should focus on organizations in Reading, Allentown, and Bethlehem where Hispanic organization and leadership are strongest.

Action Step 3.2.c: Develop direct marketing in Hispanic social places. This includes setting up booths at local and state parks where Hispanics play sports. Also, DCNR participation in Hispanic festivals will have immediate effects. Collaboration with local groups can lead to participation by DCNR in Hispanic festivals. Private firms and local non-profit organizations understand that Hispanic festivals are one of the best ways of creating awareness within local Hispanic populations. Most festivals take place during the summer in local parks. A booth representing DCNR and a nearby state park with possible activities is a simple and effective way to reach out to potential Hispanic visitors. The National Park Service is pursuing such methods, particularly around Yosemite and Saguaro National Parks.

Action Step 3.2.d: Create Hispanic park volunteer committees. In collaboration with local Hispanic organizations, Hispanic park volunteer committees should be developed. These volunteers would serve as advisory groups to park management on issues ranging from Hispanic volunteering in the park to creating culturally relevant programming. Initial efforts to develop such committees within the study region should focus on Beltzville, French Creek, and Marsh Creek State Parks.

Action Step 3.2.e: Partner with local parks. The Hispanic population tends not to differentiate between state parks and local parks. Instead, they are simply known as public parks (which is the case in many Latin American countries). This has serious implications for state parks because unkempt local parks are often perceived as reflecting discriminatory practices by local societies. DCNR should collaborate with Latino organizations and local parks departments to create local citizens groups to care for local parks. This would result in Hispanic investment and responsibility for local parks which, in turn, would extend to interest in caring for resources in state parks. Caring for the neighborhood park also creates a broad interest in natural resources and caring for the environment.

Action Step 3.2.f: Conduct environmental education in Hispanic community centers. As evident with some past successful DCNR programs, it is important for environmental education specialists to present material at local Hispanic centers. Such actions will not only increase environmental awareness, but also create awareness about parks and natural places among local Hispanic populations.

Action Step 3.2.g: Develop films in Spanish or having Spanish subtitles. Videos are an efficient way of reaching out to a large and diverse audience. DCNR should provide short films about parks, including information about activities, rules, roles of park staff, and responsibilities of visitors to local Hispanic community centers. Such films can also include environmental education.

Action Step 3.2.h: Create awareness about parks through Hispanic media. DCNR should announce activities and information through Hispanic radio and newspapers. The best way to consider communication through Hispanic media is to speak with local Hispanic organizations, including Hispanic chambers of commerce. In the past, local Hispanic-run graphics arts businesses have helped create public service announcement for a reduced or waived fee. An additional method of communication includes inviting well-known Hispanic figures from New York City or Philadelphia. For example, Hispanic musicians promoted summer festivals on behalf of local Hispanic organizations in Bethlehem, Allentown, and Reading. The New York City Department of Parks and Recreation has also used this method of announcement.

Recommendation 3.3: Partner with the Office of Environmental Advocate. Lack of access to adequate outdoor recreation is an environmental injustice. DCNR should collaborate with the Office of Environmental Advocate to seek solutions that encourage Hispanic use of public natural areas, including state parks.

Recommendation 3.4: Educate about duties of rangers/managers. Hispanic visitors generally have a strong distrust of park management. It is of primary importance for DCNR to create awareness among Hispanic visitors of the roles and responsibilities of park staff. In particular, there seems to be a misunderstanding that park management is similar to or part of Immigration and Customs Enforcement.

Much of this problem can be resolved simply through improved casual on-site communication with Hispanic visitors.

Recommendation 3.5: Emphasize safety of parks. A safe place for family is a primary motivation for Hispanic park visitors. Although perhaps taken for granted by the general population, DCNR should emphasize safety when communicating with Hispanics about state parks. Hispanic residents must be aware that state parks and local parks are under different management with provision of a family-oriented setting a primary objective of state parks.

Recommendation 3.6: Hire more Hispanic staff. One way of making Hispanics more comfortable in state parks, as well as providing culturally relevant programming, is to hire Hispanic staff. In particular, rangers and environmental education specialists should include Hispanics. Several study participants indicated interest in working for state parks; however, they were deterred due to the language barrier, lack of education, or the perception that DCNR would not hire a Hispanic.

Recommendation 3.7: Emphasize cultural meanings for parks.

Action Step 3.7.a: As implied previously, DCNR should emphasize the cultural importance of parks when targeting communication to Hispanic residents. Listing possible recreation activities is insufficient – DCNR must focus on making parks responsive to Hispanic cultures. Hispanic organizations can assist in developing appropriate communication tools which emphasize cultural ties to nature as discussed in our qualitative findings.

Action Step 3.7.b: Incorporate Spanish names for the parks. Many study participants were unaware of official names, but they knew the park by a local name. When communicating with Hispanics, DCNR should use local names for park (e.g. La Playita for Beltzville) in addition to official names. This also displays cultural sensitivity to local Hispanic populations.

Recommendation 3.8: Emphasize physical activity. Health is a primary concern for Hispanics and Hispanic leaders in Pennsylvania. DCNR should focus programming for Hispanics and communication with Hispanic organizations on physical activity in parks. In this way, Hispanic leaders will see direct

benefit from promoting park use among their constituents. It is also important to emphasize physical activity for Hispanic youth who tend to have higher rates of obesity than non-Hispanic youth.

4. Recommendations: Enhancing Hispanic Uses and Knowledge of Natural Resources through At-Risk Youth Development

Recommendation 4.1: Partner with school districts. Reading, Allentown, and Bethlehem School Districts have majority Hispanic populations and provide excellent opportunities for DCNR to create interest in park visitation and natural resources in youth.

Action Step 4.1.a: Successful programs such as the Urban E program should be continued and expanded. This is especially important because the Hispanic population is relatively young and Hispanic populations in school districts will continue to grow. Further, as with non-Hispanics, an important way of communicating with parents is through schools.

Action Step 4.1.b: Additional activities may include "Teacher in the Park" summer programs, which provide teachers in Hispanic schools with environmental education training and park recreation experiences. The teacher then takes the experience back to his or her classroom to create awareness and knowledge about parks and the environment for students.

Action Step 4.1.c: Environmental education and park activities should be integrated into sporting events and arts activities. Besides sports, Hispanic students respond strongly to activities focused on cultural dance, music, and art. Parks provide excellent locations to practice such activities and incorporate environmental education.

Recommendation 4.2: Create opportunities for youth development. DCNR is in an excellent position to provide opportunities for youth to improve their skill sets as well as gain an appreciation for natural resources. A local model for outdoor recreation and youth development is found at Camp Compass in Allentown (http://www.campcompass.org/) which provides hunting opportunities, natural resource knowledge, and self-esteem building for urban youth.

Action Step 4.2.a: Provide summer work experience. For example, internships can be facilitated through partnerships with local colleges/high schools heavily populated by Hispanic students.

Action Step 4.2.b: Provide outdoor activities in state parks for at risk youth identified through Hispanic organizations. Such programs will probably require transportation.

Action Step 4.2.c: Implement a role model approach. Partner at-risk Hispanic youth and local role models with outdoor interests. Activities take place in state parks. Role models can also consist of natural resource professionals from many various fields.

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APPENDIX A: KEY INFORMANT CONSENT FORM AND INSTRUMENT

Key Informant Consent Form

Title of Project:	**Latino Use and Perceptions of Pennsylvania Natural Areas – Semi structured Interviews**
Principal Investigator:	Jason S. Gordon The Pennsylvania State University 301 Armsby Building University Park, PA 16802 (814) 360-5495 (cell) (814) 865-3746 (fax) jsg246@psu.edu
Advisor:	Dr. A.E. Luloff, Professor of Rural Sociology 114 Armsby Building University Park, PA 16802 (814) 863-8643 aeluloff@psu.edu
Other Investigators:	Dr. J.C. Finley, Professor of Forest Resources

1. Purpose of the Study:

This project gathers community input to assess how the Latino population uses parks, forests, and other public lands and the ways that natural resource managers accommodate the needs of Latino visitors.

2. Procedures to be followed:

The interview will consist of about 14 principal questions that the interviewer will ask. Additional follow-on questions may be asked to clarify concepts and ideas.

3. Benefits:

There will be no direct benefits from participating in this project. The research will inform policy decisions that result in improved enjoyment by Latinos of Pennsylvania's natural areas.

4. Duration/Time:

It will take approximately 30 to 60 minutes to complete the interview.

5. Statement of Confidentiality:

All of your responses will remain confidential. Your responses will be kept on file separately from your background information. Your responses will not be linked to individual identifiers such as name, title, or other demographic information during reporting of the results. Data will be reported in summary form only.

The original signed informed consent forms will be kept on file in a locked cabinet in Room 114 of Armsby Building at The Pennsylvania State University for three years following IRB approval expiration.

6. Right to Ask Questions:

You can ask questions about this research. Contact Jason Gordon at (814) 360-5495 with questions.

7. Voluntary Participation:

Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

8. Audio Tape Recording

Please check the appropriate box below regarding permission to tape record this interview:

□ Yes, I permit this interview to be audio-tape recorded.

□ No, I do not permit this interview to be audio-tape recorded.

A set of transcripts may be developed from the audio tape recordings. The audio tape recordings and transcripts will be stored in a locked cabinet in Room 114 Armsby Building at The Pennsylvania State University. Jason Gordon, Dr. Luloff and Dr. Finley will have access to the audio tape recordings and transcripts. Destruction of the audio tape recordings will occur on or before June 1, 2010.

You must be 18 years of age or older to consent to take part in this research study. If you agree to participate in this research study and the information outlined above, please sign your name and indicate the date below.

You will be given a copy of this signed and dated consent form for your records.

*X*_____ _____
Participant Signature Date

_____ _____
Printed name of participant Date

*X*_____ _____
Person Obtaining Consent Date

_____ _____
Person Obtaining Consent Date

Key Informant Instrument

KEY INFORMANT QUESTIONS
LATINO USES AND PERCEPTIONS OF
PENNSYLVANIA NATURAL AREAS

INT. CODE_____
Date/time:_____
Place:_____
Audio record (Y/N)

Name:_____
Title(s) and time in position(s):_____
Address:_____Phone:_____Email:_____
_____
Birthplace:_____ Residence in present Community:_____
Where did you live before here?_____
Please identify your race and ethnicity._____
Gender:_____ Education:_____

Community and Action

1. Describe your community: (a) in terms of geographic area; and (b) in terms of the people who live and work here. How do they interact?
    a. Who are the community leaders?
    b. What are some neighborhoods in the community?
    c. What are some of the institutions or groups that are important to community members? (e.g., work place, religious, community organizations, stores, government, labor unions)
    d. What are the concerns in the community?
2. What social or cultural activities bring people together?
    a. Are Latino residents involved in these activities? (If not, what activities are they involved in?)
3. How is the community changing?
4. How has the community organized and mobilized for certain causes in the past?
    a. Have Latino residents been involved in these movements?
    b. Have Latino residents been actively involved in any natural resource related movements or actions?
5. What is the biggest obstacle for Latinos to organize and come together?
6. What's the relationship like between the community and government agencies?
    a. What does the community do to accommodate minority populations including non-English speakers?
    b. Do Latino residents and community decision-makers communicate? About what issues?

Recreation & Environment

1. What concerns does the community have?
2. Do residents/Latinos in the community have any concerns related to the environment? What are they? Do Latino environmental concerns differ from other groups in the community?
3. What do you think parks, forests, and other natural resources mean to residents/Latinos? Are these things important to them? Why or why not?
    a. What are the parks they visit in the city and outside the city?
    b. Are Latino meanings different from other social groups' meanings?
4. What benefits do natural resource areas provide for residents/Latinos?
    a. Name some activities of residents/Latino visitors to natural areas.
    b. How would they respond if the activity (in that place) was no longer available?
5. What role do humans play in the environment?
6. What are the major natural resources related issues and concerns for the community?

Latino Residents

1. Where do Latinos in your area come from?
    a. Why do you think they settle in your community?
2. Describe the Latino residents in your community
    a. What are their occupations?
    b. What are their educations?
    c. Where do their children go to school (K-12; college)?
    d. What are the dominant religions of these residents? Where do they regularly go for services?
    e. Are the Latino residents you are describing traditional families (mother, father, children)?
    f. Where do Latinos in your area get their news?
3. Where do Latino residents live?
    a. Is there a mix of different social groups in the area you mentioned? What groups are there?
4. Are you aware of any past mistreatments or perceptions of unfairness towards Latino residents in the community?
5. What kind of linkages do you think Latino residents in your community have with their or their parents' countries of origin?

- Who else can I talk to about these themes? Where can a focus group meet? What would be the best way to get people to show up? Note: DCNR is looking for Latino employees

APPENDIX B: KEY INFORMANT INTERVIEW CODES

Code	County	Origin	Ethnicity	Gender	Age	Race	Education	Type
101	Berks	Puerto Rico	Puerto Rican	F	31-40	Hispanic	Masters	Media
102	Berks	USA	Puerto Rican	M	31-40	Latino	Masters	Business
103	Berks	USA	NonLatino	M	31-40	Caucasian	Bachelors	State Parks
104	Berks	USA	Mexican-Americ	M	51-60	Hispanic	Masters	Media
105	Berks	USA	Mexican/Puerto	F	31-40	Mixed	PhD	Local Gov
106	Berks	USA	NonLatino	F	41-50	Caucasian	Bachelors	Latino NGO
107	Berks	USA	NonLatino	M	31-40	Mixed	Bachelors	Business
108	Berks	USA	NonLatino	F	41-50	Latino	Bachelors	Media
109	Berks	USA	NonLatino	M	41-50	Caucasian	Bachelors	State Parks
110	Berks	Mexico	Mexican	M	21-30	Mixed	Bachelors	Local NGO
111	Berks	Puerto Rico	Puerto Rican	F	41-50	Latino	Bachelors	Religious
112	Berks	Dominican Repub	Dominican	M	41-50	Latino	High School	Activist
113	Berks	USA	NonLatino	M	31-40	Caucasian	Bachelors	Local Parks
114	Berks	Dominican Repub	Dominican	M	61-70	Latino	Less than High	Volunteer
115	Berks	USA	NonLatino	M	51-60	Caucasian	Masters	Environmentalis
116	Berks	Venezuela	Venezuelan	F	31-40	Hispanic	Bachelors	Business
117	Berks	Puerto Rico	Puerto Rican	F	31-40	Latino	Bachelors	Environmentalis
201	Lackawanna	USA	NonLatino	M	51-60	Caucasian	Bachelors	Local Gov
202	Lackawanna	USA	NonLatino	M	41-50	Caucasian	Bachelors	Local Parks
203	Lackawanna	USA	NonLatino	F	51-60	Caucasian	Bachelors	Environmentalis
204	Lackawanna	Mexico	Mexican	M	41-50	Hispanic	Bachelors	Local NGO
205	Lackawanna	USA	Dominican	F	21-30	Latino	Some college	Education
206	Lackawanna	Mexico	Peruvian	M	41-50	Hispanic	Bachelors	Latino NGO
207	Lackawanna	USA	NonLatino	F	41-50	Caucasian	Bachelors	Local Gov
208	Lackawanna	USA	NonLatino	F	41-50	Caucasian	Bachelors	Local NGO
209	Lackawanna	USA	NonLatino	M	51-60	Caucasian	Bachelors	Business
210	Lackawanna	USA	NonLatino	M	41-50	Caucasian	Bachelors	State Parks
211	Lackawanna	USA	NonLatino	F	31-40	Black	Masters	Education
212	Lackawanna	Argentina	Argentinan	F	41-50	Latino	Bachelors	Activist
213	Lackawanna	Puerto Rico	Puerto Rican	M	41-50	Latino	High School	Latino NGO
214	Lackawanna	USA	NonLatino	M	71-80	Caucasian	Bachelors	Extension
215	Lackawanna	USA	NonLatino	F	41-50	Caucasian	Some college	Local Parks
216	Lackawanna	Columbia	Columbian	F	41-50	Latino	Bachelors	Media

Code	County	Origin	Ethnicity	Gender	Age	Race	Education	Type
217	Lackawanna	USA	NonLatino	M	51-60	Caucasian	Bachelors	Local Gov
218	Lackawanna	Puerto Rico	Puerto Rican	M	41-50	Latino	High School	Activist
301	Lehigh	USA	NonLatino	M	61-70	Caucasian	Bachelors	Local Parks
302	Lehigh	USA	NonLatino	F	31-40	Caucasian	PhD	Latino NGO
303	Lehigh	El Salvador	Salvadoran	F	41-50	Hispanic	Masters	Local Gov
304	Lehigh	USA	NonLatino	M	51-60	Caucasian	Bachelors	Business
305	Lehigh	USA	Puerto Rican	M	51-60	Pto Rican	Bachelors	Local Gov
306	Lehigh	USA	NonLatino	M	31-40	Black	High School	Local NGO
307	Lehigh	Puerto Rico	Puerto Rican	M	51-60	Latino	Masters	Education
308	Lehigh	Dominican Repub	Dominican	M	51-60	Mixed	Bachelors	Local Gov
309	Lehigh	Puerto Rico	Puerto Rican	F	41-50	Latino	Bachelors	Local NGO
310	Lehigh	USA	Puerto Rican	M	51-60	Latino	Bachelors	Religious
311	Lehigh	Puerto Rico	Puerto Rican	F	41-50	None	Bachelors	Activist
312	Lehigh	Puerto Rico	Puerto Rico	F	41-50	Latino	Bachelors	Education
313	Lehigh	USA	NonLatino	M	31-40	Caucasian	Bachelors	State Parks
314	Lehigh	USA	NonLatino	M	31-40	Caucasian	Bachelors	State Parks
315	Lehigh	USA	Puerto Rican	F	41-50	Caucasian	Bachelors	Media
316	Lehigh	USA	Dominican	M	51-60	Black	High School	Business
317	Lehigh	USA	NonLatino	F	41-50	Caucasian	Bachelors	Environmentalis
401	Luzerne	Puerto Rico	Puerto Rican	M	61-70	Pto Rican	PhD	Latino NGO
402	Luzerne	Dominican Repub	Dominican	F	21-30	Latino	Some college	Volunteer
403	Luzerne	Peru	Peruvian	M	51-60	Hispanic	Masters	Media
404	Luzerne	Dominican Repub	Dominican	F	41-50	Hispanic	Bachelors	Local NGO
405	Luzerne	Guatemala	Guatemalan	F	41-50	None	Bachelors	Activist
406	Luzerne	USA	NonLatino	M	31-40	Caucasian	Bachelors	Local Parks
407	Luzerne	USA	Dominican	F	41-50	Hispanic	Bachelors	Local NGO
408	Luzerne	Columbia	Columbian	M	21-30	Hispanic	Bachelors	Business
409	Luzerne	USA	NonLatino	F	41-50	Latino	Masters	Business
410	Luzerne	USA	Dominican	M	21-30	Hispanic	Masters	Religious
411	Luzerne	Mexico	Mexican	F	41-50	Mexican	High School	Volunteer
412	Luzerne	El Salvador	Salvadoran	F	51-60	Mixed	Bachelors	Activist
413	Luzerne	USA	NonLatino	M	51-60	Caucasian	PhD	Religious
414	Luzerne	USA	NonLatino	M	61-70	Caucasian	Bachelors	State Parks
415	Luzerne	USA	Dominican/Puert	F	21-30	Latino	Bachelors	Activist
416	Luzerne	Dominican Repub	Dominican	F	41-50	Latino	Less than High	Activist

Code	County	Origin	Ethnicity	Gender	Age	Race	Education	Type
417	Luzerne	Guatemala	Mexican	M	51-60	Hispanic	Bachelors	Latino NGO
418	Luzerne	USA	NonLatino	M	31-40	Caucasian	Bachelors	Local NGO
419	Luzerne	Puerto Rico	Puerto Rican	F	61-70	Pto Rican	Bachelors	Federal Gov
420	Luzerne	USA	NonLatino	M	41-50	Caucasian	Masters	Extension
421	Luzerne	USA	NonLatino	M	41-50	Caucasian	Bachelors	State Parks
501	Monroe/Pike	USA	NonLatino	M	61-70	Caucasian	PhD	Religious
502	Monroe/Pike	USA	Cuban	M	41-50	Mixed	PhD	Local Gov
503	Monroe/Pike	Puerto Rico	Puerto Rican	M	31-40	Hispanic	Bachelors	Volunteer
504	Monroe/Pike	USA	NonLatino	M	41-50	Caucasian	Bachelors	State Parks
505	Monroe/Pike	Puerto Rico	Puerto Rican	M	61-70	Latino	High School	Activist
506	Monroe/Pike	USA	Puerto Rican	M	51-60	Pto Rican	PhD	Business
507	Monroe/Pike	USA	Puerto Rican	F	41-50	Pto Rican	Bachelors	Latino NGO
508	Monroe/Pike	USA	NonLatino	M	51-60	Caucasian	Bachelors	National Parks
509	Monroe/Pike	USA	NonLatino	M	51-60	Caucasian	PhD	Religious
510	Monroe/Pike	USA	NonLatino	M	31-40	Caucasian	Bachelors	State Parks
511	Monroe/Pike	Dominican Repub	Dominican	F	41-50	Latino	High School	Activist
512	Monroe/Pike	Columbia	Columbian	F	21-30	Latino	High School	Volunteer
513	Monroe/Pike	USA	Puerto Rican	M	51-60	Latino	Bachelors	Media
514	Monroe/Pike	Ecuador	Ecuadorian	M	41-50	Hispanic	Bachelors	Activist
515	Monroe/Pike	USA	NonLatino	M	61-70	Caucasian	Bachelors	Local Parks
516	Monroe/Pike	USA	NonLatino	F	31-40	Caucasian	Bachelors	Environmentalis
601	Northampton	USA	Mexican-Americ	M	21-30	Latino	Bachelors	State Parks
602	Northampton	USA	NonLatino	F	51-60	Caucasian	Bachelors	Local NGO
603	Northampton	USA	Puerto Rican	F	51-60	None	High School	Activist
604	Northampton	Puerto Rico	Puerto Rican	M	41-50	Pto Rican	Bachelors	Latino NGO
605	Northampton	USA	Puerto Rican	M	51-60	Pto Rican	Bachelors	Local NGO
606	Northampton	USA	NonLatino	M	51-60	Caucasian	Bachelors	State Parks
607	Northampton	Puerto Rico	Puerto Rican	F	41-50	Latino	Associates	Activist
608	Northampton	USA	NonLatino	M	61-70	Latino	PhD	Religious
609	Northampton	USA	NonLatino	M	41-50	Caucasian	Bachelors	Media
610	Northampton	Puerto Rico	Puerto Rico	F	51-60	None	Bachelors	Education
611	Northampton	USA	Mexican	M	31-40	Hispanic	Some college	Business
612	Northampton	Puerto Rico	Puerto Rican	M	41-50	Latino	Bachelors	Latino NGO
613	Northampton	Honduras	Honduran	F	41-50	Hispanic	Less than High	Volunteer
614	Northampton	Columbia	Columbian	M	71-80	Caucasian	Masters	Extension

Code	County	Origin	Ethnicity	Gender	Age	Race	Education	Type
615	Northampton	USA	Dominican	M	41-50	Latino	High School	Business
616	Northampton	USA	NonLatino	M	41-50	Caucasian	Bachelors	Local Gov
617	Northampton	USA	NonLatino	M	51-60	Caucasian	Bachelors	Local Parks
618	Northampton	USA	NonLatino	M	41-50	Caucasian	Masters	Extension
703	State	USA	Mexican-Americ	F	31-40	Latino	Masters	State NGO
704	State	USA	NonLatino	M	41-50	Caucasian	Bachelors	State Forests
705	State	Puerto Rico	Puerto Rican	M	41-50	Hispanic	Masters	State Gov
706	State	Puerto Rico	Puerto Rican	M	31-40	Latino	Masters	Latino NGO

APPENDIX C: HOUSEHOLD SURVEY CONSENT FORM AND INSTRUMENT

Household Survey Consent Form

Title of Project: **Latino Use and Perceptions of Pennsylvania Natural Areas – Household Survey**

Principal Investigator: Jason Gordon, Ph.D Candidate
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Advisor: Dr. A.E. Luloff, Professor of Rural Sociology
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University Park, PA 16802
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Other Investigators: Dr. J.C. Finley, Professor of Forest Resources

1. **Purpose of the Study:** This survey gathers community input to assess how the Latino population uses parks, forests, and other public lands and the ways natural resource managers accommodate the needs of Latino visitors. Findings will help improve outdoor recreation benefits and environmental policy for Pennsylvania's Latino population. We are contacting Latino households to learn how they use natural resources, and their needs, perceptions, and concerns about them. The study is funded by the Pennsylvania Department of Conservation and Natural Resources' Bureau of State Parks.

2. **Procedures to be followed:** You will be asked to answer questions from a 12-page survey during a face-to-face interview.

3. **Duration/Time:** The survey will take about 45 minutes to complete.

4. **Statement of Confidentiality:** Your participation in this research is confidential. The data will be stored and secured at 114 Armsby Building, University Park in a password protected file accessible only by the Principal Investigators. The files will be destroyed in 2012. In the event of a publication or presentation resulting from the research, no personally identifiable information will be shared.

5. **Right to Ask Questions:** Please contact Jason Gordon at (814) 360-5495 with questions or concerns about this study. Mr. Gordon speaks Spanish.

6. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

You must be 18 years of age or older to consent to take part in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below.
You will be given a copy of this consent form for your records.

_____ _____
Participant Signature Date

_____ _____
Person Obtaining Consent Date

Household Survey Instrument

Latino Uses and Perceptions of Pennsylvania Natural Areas
Penn State, Pennsylvania Department of Conservation and
Natural Resources Bureau of State Parks Cooperating

COMMUNITY RESIDENCE

The first set of questions asks about your levels of satisfaction with your community. All information you provide will be treated confidentially and will never be linked with your name.

1. When someone asks you the name of the community where you live, what name do you usually give?
_____

2. In general, how satisfied are you with life in this community? Would you say you are Very Unsatisfied, Mostly Unsatisfied, Neither Satisfied nor Unsatisfied, Mostly Satisfied, or Very Satisfied?

a. Very unsatisfied
b. Mostly unsatisfied
c. Neither satisfied nor unsatisfied
d. Mostly satisfied
e. Very satisfied

3a. How serious is each of the following issues for Latinos in your community? Would you say it is Not a Serious problem, it is Hardly a problem, it is a Serious problem, or it is a Very Serious problem?

	Not Serious At All	Hardly Serious	Serious	Very Serious	Don't Know
a. Not enough jobs	1	2	3	4	DK
b. Problems of environmental quality	1	2	3	4	DK
c. Quality of education	1	2	3	4	DK
d. Provision of health care	1	2	3	4	DK
f. Use of illegal drugs	1	2	3	4	DK
g. The need for public transportation	1	2	3	4	DK
h. Disagreements among Latino residents	1	2	3	4	DK
i. Availability of affordable housing	1	2	3	4	DK
j. Loitering in public areas	1	2	3	4	DK

3b. How serious is each of the following issues for Latino residents in your community? Would you say it is Not a Serious problem, it is Hardly a problem, it is a Serious problem, or it is a Very Serious problem?

	Not Serious At All	Hardly Serious	Serious	Very Serious	Don't Know
a. Latino political representation	1	2	3	4	DK
b. Quality of housing	1	2	3	4	DK
c. Immigrant legal status	1	2	3	4	DK
d. Worker rights	1	2	3	4	DK
e. Diabetes and nutrition	1	2	3	4	DK
f. Obesity (child and adult)	1	2	3	4	DK
g. Disagreements between Latinos and non-Latinos	1	2	3	4	DK
h. Youth problems (e.g., gangs)	1	2	3	4	DK
i. Other (Specify)	1	2	3	4	DK

4. How much confidence do you feel you have in your local government to make good decisions about the following local issues? Do you feel No confidence in local government, feel Very Little confidence in local government, feel Some confidence in local government, or feel Complete confidence in local government.

	None	Very Little	Some	Complete
a. Education	1	2	3	4
b. Business	1	2	3	4
c. Environment	1	2	3	4
d. Crime	1	2	3	4
e. Civil liberties	1	2	3	4
f. Housing	1	2	3	4

5. Have you participated in the following activities in your community during the past year? Answer Yes or No.

	YES	NO
a. Attended a local community event (like a school concert, community parade or craft fair)	1	2
b. Contacted a public official about some issue or problem affecting your community	1	2
c. Worked with other residents to try and deal with a community issue or problem	1	2
d. Attended any public meeting in the community (like school board meeting or local land planning or zoning meeting)	1	2
e. Served as an officer in a community organization	1	2
f. Served on a local government commission, committee, or board	1	2
g. Served on a voluntary community service organization (e.g., EMT, food bank, Kiwanis, Lions)	1	2
h. Taken part in a public demonstration or protest	1	2
i. Other (Specify)	1	2

6. How do you feel about how important decisions are made in your community? Would you Strongly Disagree, Somewhat Disagree, Neither Agree nor Disagree, Somewhat Agree, or Strongly Agree with each of the following statements:

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	Don't Know
a. Almost all adult residents influence community decisions	1	2	3	4	5	6
b. About half of the residents influence community decisions	1	2	3	4	5	6
c. A small number of persons influence community decisions	1	2	3	4	5	6
d. Leaders mostly look out for the interests of all residents	1	2	3	4	5	6
e. Leaders sometimes look out for their own interests and sometimes look out for the interests of all residents	1	2	3	4	5	6
f. Leaders mostly look out for their own personal interests	1	2	3	4	5	6
g. Latino residents are not very involved in decisions	1	2	3	4	5	6
h. Latino leaders mostly look out for the interests of all residents	1	2	3	4	5	6
i. Latino leaders mostly look out for their own personal interests	1	2	3	4	5	6

7. How many of your close friends are of the following groups. Please estimate a number.

White ☐ Latino ☐ African American ☐ Asian ☐

8. One's Latin American nationality is generally defined as the country you and/or your family migrated from prior to coming here. Of all your Latino friends and acquaintances, do you Never, Rarely, Sometimes, or Often spend time with people of your same nationality?

a. Never
b. Rarely
d. Sometimes
e. Often

9. How often do you interact with non-Latino residents in the following places? Specify if you interact with non-Latinos about Once a Week, Several Times a Week, Once a Month, Several Times a Month, Once or More per Year, Rarely, or Never.

	Don't Know	**About Once a Week**	**Several Times a Week**	**About Once a Month**	**Several Times a Month**	**One or More Times/ Year**	**Rarely or Never**
a. At work	1	2	3	4	5	6	7
b. At church	1	2	3	4	5	6	7
c. During local political activities	1	2	3	4	5	6	7
d. During festivals and parades	1	2	3	4	5	6	7
e. In the bus	1	2	3	4	5	6	7
f. In school activities	1	2	3	4	5	6	7
g. In social organizations (Lions Club, Rotary)	1	2	3	4	5	6	7
h. Other (Specify)	1	2	3	4	5	6	7

10. How often have you or anyone you know experienced prejudice or discrimination in your community? Would you say you have Never, Rarely, Sometimes, or Often experienced prejudice or discrimination? (Prejudice is any hostile attitude towards people based on their race or ethnicity).

a. Never
b. Rarely
d. Sometimes
e. Often

11a. How often have you found yourself in a situation when you felt uneasy or awkward either because of being an immigrant, because of your accent, or because of your ethnic status? Would you say you have Never felt uneasy or awkward, felt that way only Once, Occasionally felt that way, Often felt uneasy or awkward, or Very Often felt uneasy or awkward because of your immigrant status or accent?

	Never	**Once**	**Occasionally**	**Often**	**Very Often**	**Don't Know**
a. At your workplace	1	2	3	4	5	6
b. On public transportation	1	2	3	4	5	6
c. At a government office	1	2	3	4	5	6
d. At a non-government office	1	2	3	4	5	6
e. In contact with police	1	2	3	4	5	6
f. While shopping	1	2	3	4	5	6
g. At banks	1	2	3	4	5	6
h. At schools	1	2	3	4	5	6

11b. How often have you found yourself in a situation when you felt uneasy or awkward either because of being an immigrant, because of your accent, or because of your ethnic status? Would you say you have Never felt uneasy or awkward, felt that way only Once, Occasionally felt that way, Often felt uneasy or awkward, or Very Often felt uneasy or awkward because of your immigrant status or accent?

	Never	Once	Occasionally	Often	Very Often
a. At hotels or motels	1	2	3	4	5
b. At parks or other public recreation areas	1	2	3	4	5
c. At privately owned recreation-oriented clubs and associations	1	2	3	4	5
d. At restaurants	1	2	3	4	5
e. At parties	1	2	3	4	5
f. At churches	1	2	3	4	5
g. While participating in sports	1	2	3	4	5
h. Other (Specify)	1	2	3	4	5

USES OF NATURAL AREAS, PARKS, AND FORESTS

The next set of questions asks about your uses of natural resources.

12a. During the past year, how often have you visited any of the following public lands? Specify if you have not visited the following public lands, if you have visited them only once, made 2 to 5 visits, made 6 to 10 visits, or visited more than 10 times.

	No Visits	1 Visit	2 to 5 Visits	6 to 10 Visits	Over 10 Visits
a. Beltzville State Park	1	2	3	4	5
b. French Creek State Park	1	2	3	4	5
c. Nockamixon State Park	1	2	3	4	5
d. Marsh Creek State Park	1	2	3	4	5
e. Delaware Water Gap National Recreation Area	1	2	3	4	5
f. Promised Land State Park	1	2	3	4	5
g. Tobyhanna State Park	1	2	3	4	5

12b. During the past year, how often have you visited any of the following public lands? Specify if you have not visited the following public lands, if you have visited them once, made 2 to 5 visits, made 6 to 10 visits, or visited more than 10 times.

	No Visits	1 Visit	2 to 5 Visits	6 to 10 Visits	Over 10 Visits
a. Lackawanna State Park	1	2	3	4	5
b. Tuscarora State Park	1	2	3	4	5
c. Nescopeck State Park	1	2	3	4	5
d. Hickory Run State Park	1	2	3	4	5
e. Locust Lake State Park	1	2	3	4	5
f. Blue Marsh Lake Recreation Area	1	2	3	4	5
g. Other (Specify)	1	2	3	4	5

13a. Do you visit any local parks?

a. Yes
b. No ⟶ If no, skip to Question 14 below.

13b. What parks do you visit and how often do you visit them? Specify if you have visited them once, made 2 to 5 visits, made 6 to 10 visits, or visited more than 10 times.

Name	No Visits	1 Visit	2 to 5 Visits	6 to 10 Visits	Over 10 Visits
a. _____	1	2	3	4	5
b. _____	1	2	3	4	5
c. _____	1	2	3	4	5

14. What is your favorite state, local, or federal park and/or outdoor recreation area? (Please explain why)

_____

_____

15a. Have you ever considered working in natural resource management?

a. Yes
b. No ⟶ If no, skip to Question 16 below.

15b. Please explain what prevented you from working in natural resource management?

_____

_____

16 Think about your answer to Question 14. How do you feel about this place? Would you Strongly Disagree, Somewhat Disagree, Neither Agree nor Disagree, Somewhat Agree, or Strongly Agree with each of the following statements:

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewh at Agree	Strongly Agree
a. It reflects the type of person I am	1	2	3	4	5
b. It says very little about who I am	1	2	3	4	5
c. I feel I can really be myself in this place	1	2	3	4	5
d. I feel relaxed when I am there	1	2	3	4	5
e. I feel happiest when I'm there	1	2	3	4	5
f. I really miss it when I am away from it for too long	1	2	3	4	5
g. It is the best place for doing the things I enjoy most	1	2	3	4	5
h. This place is not a good place to do the things I like most to do	1	2	3	4	5
i. For doing the things I like to do most, no other place compares to this place	1	2	3	4	5

17a. How important are each of these benefits of visiting Pennsylvania's parks and forests? Would you say it is Very Unimportant, Moderately Unimportant, Neither Important nor Unimportant, Moderately Important, or Very Important?

	Very Unimportant	Moderately Unimportant	Neither Important nor Unimportant	Moderately Important	Very Important
a. Doing something with my family	1	2	3	4	5
b. Spending time with friends	1	2	3	4	5
c. Enjoying fresh air	1	2	3	4	5
d. Relaxing	1	2	3	4	5
e. Getting back to nature	1	2	3	4	5
f. Being in a scenic area	1	2	3	4	5
g. Cooling down during a hot summer	1	2	3	4	5
h. Eating traditional food from my family's country	1	2	3	4	5

17b. How important are each of the following benefits of visiting Pennsylvania's parks and forests? Would you say it is Very Unimportant, Moderately Unimportant, Neither Important nor Unimportant, Moderately Important, or Very Important?

	Very Unimportant	Moderately Unimportant	Neither Important nor Unimportant	Moderately Important	Very Important
a. Listening to music	1	2	3	4	5
b. Playing in the pool	1	2	3	4	5
c. A place for my kids to play	1	2	3	4	5
d. Getting exercise	1	2	3	4	5
e. Harvesting fish, meat, or plants	1	2	3	4	5
f. Seeing animals in their natural habitat	1	2	3	4	5
g. Enjoying the smells and sounds of nature	1	2	3	4	5
h. Other (Specify)	1	2	3	4	5

18a. Please indicate whether you have participated in the any of the following outdoor activities during the past year in state parks, state forests, or local parks.

	State Parks	State Forests	Local Parks	None
a. Hunting	1	2	3	4
b. Bicycling	1	2	3	4
c. Wildlife viewing	1	2	3	4
d. Picnicking	1	2	3	4
e. Fishing	1	2	3	4
f. Picking berries or other wild foods	1	2	3	4
g. Day hiking	1	2	3	4
h. Using 4X4 or ATV to access back-roads	1	2	3	4
i. Vehicle camping	1	2	3	4
j. Skiing	1	2	3	4
k. Backpacking	1	2	3	4
l. Collecting firewood	1	2	3	4

18b. Please indicate whether you have participated in the any of the following outdoor activities during the past year in state parks, state forests, or local parks.

	State Parks	State Forests	Local Parks	None
m. Lay in hammock	1	2	3	4
n. Sightseeing by car	1	2	3	4
o. Playing sports	1	2	3	4
p. Walking	1	2	3	4
q. Playing dominos or other table games	1	2	3	4
r. Skateboarding	1	2	3	4
s. Taking my kids to the playground	1	2	3	4
t. Swimming	1	2	3	4
u. Meditating	1	2	3	4
v. Washing car	1	2	3	4
w. Other (Specify)	1	2	3	4

18c. From all of the activities we just discussed, which is the most important activity for you?

Most important activity: ☐

19a. How important is each of the following reasons for *NOT* participating in outdoor activities in state and local parks. For each response, please indicate if the reason is Very Unimportant, Moderately Unimportant, Neither Important nor Unimportant, Moderately Important, or Very Important for ***both*** state and local parks.

VU	Very Unimportant
MU	Moderately Unimportant
N	Neither Important nor Unimportant
MI	Moderately Important
VI	Very Important

State Parks						Local Parks				
VU	**MU**	**N**	**MI**	**VI**		**VU**	**MU**	**N**	**MI**	**VI**
1	2	3	4	5	a. Lack of money	1	2	3	4	5
1	2	3	4	5	b. Lack of time	1	2	3	4	5
1	2	3	4	5	c. Crime in park	1	2	3	4	5
1	2	3	4	5	d. Lack of information about facilities	1	2	3	4	5
1	2	3	4	5	e. Can't find anyone to go with	1	2	3	4	5
1	2	3	4	5	f. Too tired after work	1	2	3	4	5
1	2	3	4	5	g. Lack of physical abilities	1	2	3	4	5
1	2	3	4	5	h. I feel ill at ease with non-Latinos	1	2	3	4	5
1	2	3	4	5	i. I don't speak English well enough	1	2	3	4	5

19b. How important is each of the following reasons is for *NOT* participating in park activities. For each response, please indicate if the reason is Very Unimportant, Moderately Unimportant, Neither Important nor Unimportant, Moderately Important, or Very Important for ***both*** state and local parks.

State Parks						Local Parks				
VU	**MU**	**N**	**MI**	**VI**		**VU**	**MU**	**N**	**MI**	**VI**
1	2	3	4	5	a. I didn't enjoy visiting in the past	1	2	3	4	5
1	2	3	4	5	b. Too far from home	1	2	3	4	5
1	2	3	4	5	c. No transportation to get there	1	2	3	4	5
1	2	3	4	5	d. Nothing for me to do there	1	2	3	4	5
1	2	3	4	5	e. Admission fees are too high	1	2	3	4	5
1	2	3	4	5	f. Facilities are overcrowded	1	2	3	4	5
1	2	3	4	5	g. Facilities are inadequate	1	2	3	4	5
1	2	3	4	5	h. Facilities are poorly maintained	1	2	3	4	5

ENVIRONMENTAL ATTITUDES AND CONCERNS

Now we would like to ask you some questions about your attitudes about the environment and natural resources.

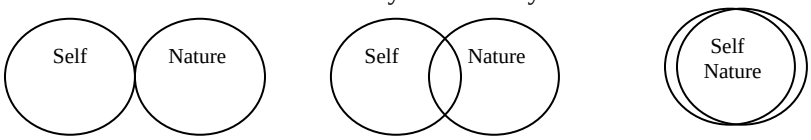
20. Please indicate whether you have participated in any of the following environmental or conservation organizational activities during the past year?

	YES	**NO**
a. Attended meetings	1	2
b. Planned or organized	1	2
c. Donated money	1	2
d. Donated goods and or services	1	2
e. Read a periodical or newsletter	1	2
f. Signed a petition or written a letter about an environmental issue	1	2
g. Talked to a community leader about an environmental issue	1	2
h. Other (Specify)	1	2

21. Do you think people born in Latin America are more environmental than people born in the United States?

a. Yes b. No

22. In the following diagrams, one circle represents yourself, and the other circle represents nature. Please circle the diagram that best describes the extent to which you feel that you and nature are the same.



23a. How often do you participate in each of the following activities? Would you say you Never, Rarely, Sometimes, or Often participate in each?

	Never	Rarely	Sometimes	Often
a. Make a special effort to buy fruits and vegetables grown without pesticides and chemicals?	1	2	3	4
b. Refuse to eat meat for moral or environmental reasons?	1	2	3	4
c. Cut back on driving a car for environmental reasons?	1	2	3	4
d. Sort glass or paper or plastic for recycling?	1	2	3	4
e. Cut back on eating meat for moral or environmental reasons	1	2	3	4
f. Try to use less water when showering or bathing	1	2	3	4

23b. How often do you participate in each of the following activities? Would you say you Never, Rarely, Sometimes, or Often participate in each?

	Never	Rarely	Sometimes	Often
a. Use energy saving light bulbs	1	2	3	4
b. Use energy saving appliances	1	2	3	4
c. Take part in litter clean-ups (adopt-a-stream, adopt-a-road)	1	2	3	4
d. Clean and remove graffiti from local structures	1	2	3	4
e. Bike or walk to work for environmental reasons	1	2	3	4
f. Use public transportation for environmental reasons	1	2	3	4
g. Other (Specify)	1	2	3	4

24a. To what extent do you agree or disagree with the following statements about human responsibility for environmental damage. Would you say you Strongly Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, or Strongly Disagree?

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Agree	Somewhat Agree	Strongly Agree
a. Almost everything we do in modern life harms the environment	1	2	3	4	5
b. Nature would be at peace and in harmony if only human beings would leave it alone	1	2	3	4	5
c. Economic growth always harms the environment	1	2	3	4	5
d. Resource extraction should be encouraged on public lands	1	2	3	4	5
e. Timber sales should be reduced in public forests	1	2	3	4	5

24b. To what extent do you agree or disagree with the following statements about human responsibility for environmental damage. Would you say you Strongly Agree, Somewhat Agree, Neither Agree nor Disagree, Somewhat Disagree, or Strongly Disagree?

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Agree	Somewhat Agree	Strongly Agree
a. There should be more designated wilderness areas	1	2	3	4	5
b. There should be more protection for important fish and wildlife species	1	2	3	4	5
c. Endangered species should be protected	1	2	3	4	5
d. Farmland should be preserved	1	2	3	4	5
e. Environmental destruction is the price to pay for good jobs	1	2	3	4	5
f. The number of urban parks should be increased	1	2	3	4	5

25a. Do you feel there currently is a major environmental issue, concern, or problem in your community?

a. No ⟶ If no, skip to Question 26a below.
b. Yes

25b. Please specify the environmental issue, concern, or problem.

_____
_____

26a. For each of the following characteristics, indicate how strongly you agree or disagree that the behavior is typical of "being an environmentalist?"

	Strongly Disagree	Somewhat Disagree	Neither	Somewhat Agree	Strongly Agree
a. Being someone who cares about his or her neighborhood setting	1	2	3	4	5
b. Being a person who recycles on a regular basis	1	2	3	4	5
c. Being someone who donates money to an environmental organization	1	2	3	4	5
d. Being someone who cultivates gardens at home	1	2	3	4	5
e. Being a vegetarian	1	2	3	4	5
f. Being someone who backpacks	1	2	3	4	5

26b. For each of the following characteristics, please tell me how strongly you agree or disagree that the behavior is typical of "being an environmentalist?"

	Strongly Disagree	Somewhat Disagree	Neither	Somewhat Agree	Strongly Agree
a. Being someone who "saves the whales"	1	2	3	4	5
b. Being someone who teaches children not to litter	1	2	3	4	5
c. Being someone who owns a hybrid car	1	2	3	4	5
d. Being someone who communes with nature	1	2	3	4	5
e. Being someone who bikes to work	1	2	3	4	5
f. Being wealthy and well-educated	1	2	3	4	5

27a. For each of the following statements, please tell me how strongly you agree or disagree.

	Strongly Disagree	Somewhat Disagree	Neither	Somewhat Agree	Strongly Agree
a. Science should not tamper with nature to modify plants used for human consumption	1	2	3	4	5
b. Science should not tamper with nature to modify animals used for human consumption	1	2	3	4	5
c. Biotechnology has enhanced food quality	1	2	3	4	5
d. I think of the natural world as a community to which I belong.	1	2	3	4	5
e. My personal welfare is independent of the welfare of the natural world.					
f. I feel a sense of oneness with nature	1	2	3	4	5

27b. For each of the following statements, please tell me how strongly you agree or disagree.

	Strongly Disagree	Somewhat Disagree	Neither Agree nor disagree	Somewhat Agree	Strongly Agree
a. I often feel disconnected from nature	1	2	3	4	5
b. Spending time outdoors is spiritual for me	1	2	3	4	5
c. Being outdoors is only worthwhile when I can share it	1	2	3	4	5
d. I belong to the Earth as it belongs to me.	1	2	3	4	5
e. Nature is better off when people leave it alone	1	2	3	4	5
f. Caring about the environment is an important part of being Latino	1	2	3	4	5

28a. How concerned are you with the following environmental issues?

	Very Unimportant	Moderately Unimportant	Neither	Moderately Important	Very Important	Don't Know
a. Global warming	1	2	3	4	5	6
b. Stream or river destruction	1	2	3	4	5	6
c. Graffiti	1	2	3	4	5	6
d. Littering	1	2	3	4	5	6
e. Chemical waste	1	2	3	4	5	6
f. Overdevelopment of rural areas	1	2	3	4	5	6
g. Nuclear waste	1	2	3	4	5	6
i. Oil spills	1	2	3	4	5	6

28b. How concerned are you with the following environmental issues?

	Very Unimportant	Moderately Unimportant	Neither	Moderately Important	Very Important	Don't Know
a. Too many cars	1	2	3	4	5	6
b. Overuse of outdoor areas	1	2	3	4	5	6
c. Drinking water quality	1	2	3	4	5	6
d. Proliferation of vermin and uncontrolled animals	1	2	3	4	5	6
e. Traffic congestion	1	2	3	4	5	6
f. Urban redevelopment	1	2	3	4	5	6
g. Loss or harm to plants or animals	1	2	3	4	5	6
h. Harm to wetlands	1	2	3	4	5	6

28c. How concerned are you with the following issues? Would you say it is Very Unimportant, Moderately Unimportant, Neither Important nor Unimportant, Moderately Important, or Very Important?

	Very Unimportant	Moderately Unimportant	Neither Important/ Unimportant	Moderately Important	Very Important	Don't Know
a. Harm to the oceans	1	2	3	4	5	6
b. Overflowing landfills	1	2	3	4	5	6
c. Too much noise	1	2	3	4	5	6
d. Too many abandoned houses	1	2	3	4	5	6
e. Acid rain	1	2	3	4	5	6
f. Destruction of rain forests	1	2	3	4	5	6
g. Excessive construction	1	2	3	4	5	6
h. Unmaintained buildings	1	2	3	4	5	6

PARTICIPANT BACKGROUND INFORMATION

Finally we need to ask you a few questions about you and your household. As with all the information you provided in this survey, answers to these questions will remain strictly confidential and will not be linked with your name.

29. [Do not ask] Is the participant male or female? a. Male b. Female

30. In what year were you born? ____ year

31a. Did you vote in last year's election? a. Yes b. No
30b. Will you vote in this year's election? a. Yes b. No

32. How do you define your race? Specify ALL that apply:
a. White
b. Black
c. African American
d. Hispanic
e. Latino
f. American Indian
g. Other/Trigueñ@

33. What is your ZIP code? ☐☐☐☐☐

34. What kind of home do you live in?
a. Single family house
b. Mobile home or trailer
c. Townhouse or duplex
d. Apartment
e. Other (Specify)_____

35. What was the highest grade of school you completed?
a. None
b. Grade school
c. Completed high school or GED
d. Some college
e. Technical school beyond high school or GED
f. Completed college (Bachelors)
g. Graduate/professional school

36. How do you describe yourself politically? a. Liberal b. Moderate Liberal c. Moderate d. Moderate Conservative

37. What is your current marital status?
a. Married
b. Married, spouse present
c. Separated
d. Divorced
e. Widowed
f. Never married/single

38. How many children do you have? ____ number of children

39. Currently, how many people, including yourself, live in your household? ____ number of people
    a. How many are 18 years old or younger? _____ number of people
    b. How many are 19-59 years old? _____ number of people
    c. How many are 60 years old? _____ number of people

40. In what country were you born? _____
41. In what city, state/province, and country did you live before your current residence? _____
42. How long have you lived in (indicate number of months/years): USA ☐ PA ☐ Community ☐

43. What is your religious affiliation?
    a. Roman Catholic c. Evangelical e. Jewish g. Other
    b. Protestant d. Other Christian f. Muslim h. Not affiliated with any religious organization

44. How well do you read, speak, write, and understand English?

	Only Spanish, no English	**Poor**	**Well**	**Very well**	**Only English, no Spanish**
a. Read	1	2	3	4	5
b. Speak	1	2	3	4	5
c. Write	1	2	3	4	5
d. Understand	1	2	3	4	5

45. Which of the following statements best describes your current diet?
    a. My diet does not differ substantially from the food found in my family's country of origin
    b. My diet consists mostly of traditional food from my family's country of origin; however it has significant US influences
    c. My usual diet includes hardly any traditional food from my family's country of origin.

46. What is your current employment status?
    a. Full-time ____ hours/week d. Student
    b. Part-time ____ hours/week e. Homemaker
    c. Retired or disabled f. Non-employed (looking for work or laid off)
47. Which of following are current sources of income in your household? Specify ALL that apply:
    a. Wages and/or salary g. Social Security payments
    b. Income from business h. Retirement pension payments
    c. Interest and/or investments i. Unemployment
    d. Income from rental properties j. Food stamps
    e. Supplemental security income k. Public assistance/welfare
    f. Other disability benefits l. Other (Specify)_____

48. What was the total income of your household (before taxes) last year?
    a. Less than $15,000 c. $25,000 to $34,999 e. $50,000 to $74,999
    b. $15,000 to $24,999 d. $35,000 to $49,999 f. $75,000 and above

APPENDIX D: HOUSEHOLD SURVEY FACTOR ANALYSIS, SCALES, AND DESCRIPTIVES

Factor Loadings for the Environmental Involvement Items

Factors/Items	N	Factor 1
Environmental Involvement		
a. Attended meetings	406	0.653
b. Planned or organized	398	0.696
c. Donated money	402	0.679
d. Donated goods and or services	399	0.741
e. Read a periodical or newsletter	400	0.638
f. Signed a petition or written a letter about an environmental issue	399	0.621
g. Talked to a community leader about an environmental issue	402	0.652
Eigen Value		3.141
Percent of Variance Explained		44.852
Cronbach's alpha		0.79
Extraction Method: Principal Components		
Rotation: Varimax		

Correlation Matrix for the Environmental Involvement Items

	a	b	c	d	e	f
a						
b	.479**					
c	.394**	.387**				
d	.368**	.415**	.511**			
e	.319**	.255**	.424**	.410**		
f	.179**	.338**	.215**	.330**	.352**	
g	.320**	.360**	.219**	.372**	.260**	.556**

** = p<.01

Factor Loadings for the Environmental Behavior Items

Factors/Items	N	Factor 1	Factor 2
Household Environmental Behaviors			
a. Buy fruits and vegetables grown without pesticides and chemicals?	409	0.700	0.079
b. Refuse to eat meat for moral or environmental reasons?	405	0.514	0.464
c. Cut back on driving a car for environmental reasons?	403	0.516	0.446
d. Sort glass or paper or plastic for recycling?	405	0.776	-0.015
e. Cut back on eating meat for moral or environmental reasons	401	0.526	0.462
f. Try to use less water when showering or bathing	405	0.729	0.099
a. Use energy saving light bulbs	408	0.583	0.114
b. Use energy saving appliances	406	0.601	0.196
Local Environmental Behaviors			
c. Take part in litter clean-ups (adopt-a-stream, adopt-a-road)	405	0.123	0.760
d. Clean and remove graffiti from local structures	403	0.121	0.770
e. Bike or walk to work for environmental reasons	405	0.110	0.794
f. Use public transportation for environmental reasons	403	0.088	0.749
Eigen Value		4.473	1.765
Percent of Variance Explained		37.278	14.712
Cronbach's alpha		0.82	0.81
Extraction Method: Principal Components			
Rotation: Oblique			

Correlation Matrix for the Environmental Behavior Items

	a	b	c	d	e	f	a	b	c	d	e
a											
b	.308**										
c	.322**	.510**									
d	.497**	.314**	.363**								
e	.279**	.704**	.544**	.331**							
f	.402**	.341**	.395**	.497**	.380**						
a	.323**	.164**	.146**	.316**	.175**	.290**					
b	.350**	.193**	.217**	.322**	.217**	.312**	.679**				
c	.161**	.330**	.266**	.093	.351**	.232**	.226**	.301**			
d	.165**	.328**	.294**	.086	.325**	.168**	.236**	.312**	.601**		
e	.203**	.289**	.368**	.123*	.310**	.169**	.155**	.252**	.478**	.501**	
f	.170**	.265**	.323**	.134**	.258**	.181**	.155**	.200**	.420**	.416**	.622**

* = p<.05; ** = p<.01

Factor Loadings for the Recreation Activities Items

Factors/Items	Factor 1
Recreation Activities	
a. Hunting	0.579
b. Bicycling	0.708
c. Wildlife viewing	0.658
d. Picnicking	0.686
e. Fishing	0.697
f. Picking berries or other wild foods	0.661
g. Day hiking	0.702
h. Using 4X4 or ATV to access back-roads	0.675
i. Vehicle camping	0.683
j. Skiing	0.651
k. Backpacking	0.697
l. Collecting firewood	0.647
m. Lay in hammock	0.637
n. Sightseeing by car	0.636
o. Playing sports	0.676
p. Walking	0.699
q. Playing dominos or other table games	0.715
r. Skateboarding	0.635
s. Taking my kids to the playground	0.644
t. Swimming	0.617
u. Meditating	0.674
v. Washing car	0.572
N	459
Eigen Value	9.656
Percent of Variance Explained	43.890
Cronbach's alpha	0.920
Extraction Method: Principal Components	
Rotation: Oblique	

Correlation Matrix for the Recreation Activities Items

	a	b	c	d	e	f	g	h	i	j	k
a											
b	.444**										
c	.326**	.505**									
d	.314**	.547**	.585**								
e	.437**	.571**	.445**	.543**							
f	.462**	.533**	.465**	.403**	.534**						
g	.344**	.486**	.584**	.552**	.519**	.503**					
h	.516**	.449**	.387**	.313**	.474**	.530**	.513**				
i	.448**	.424**	.344**	.354**	.461**	.551**	.522**	.688**			
j	.471**	.378**	.301**	.328**	.425**	.408**	.408**	.586**	.698**		
k	.524**	.450**	.369**	.346**	.491**	.479**	.479**	.608**	.675**	.733**	
l	.472**	.412**	.350**	.327**	.418**	.503**	.442**	.598**	.693**	.624**	.659**
m	.260**	.324**	.348**	.367**	.272**	.329**	.356**	.355**	.393**	.337**	.311**
n	.298**	.365**	.442**	.393**	.360**	.339**	.401**	.347**	.328**	.257**	.310**
o	.195**	.472**	.392**	.495**	.414**	.325**	.380**	.295**	.281**	.367**	.350**
p	.231**	.509**	.465**	.565**	.441**	.358**	.456**	.260**	.247**	.272**	.310**
q	.312**	.464**	.396**	.443**	.421**	.349**	.370**	.340**	.326**	.372**	.397**
r	.344**	.390**	.249**	.295**	.421**	.331**	.302**	.383**	.357**	.398**	.492**
s	.264**	.397**	.450**	.552**	.366**	.277**	.370**	.243**	.236**	.294**	.314**
t	.196**	.351**	.431**	.472**	.329**	.284**	.386**	.276**	.252**	.246**	.233**
u	.284**	.429**	.405**	.478**	.412**	.328**	.469**	.332**	.359**	.282**	.329**
v	.372**	.343**	.310**	.257**	.341**	.310**	.309**	.334**	.291**	.287**	.263**

* = p<.05; ** = p<.01

Correlation Matrix for the Recreation Activities Items (Cont.)

	l	m	n	o	p	q	r	s	t	u
a										
b										
c										
d										
e										
f										
g										
h										
i										
j										
k										
l										
m	.320**									
n	.269**	.597**								
o	.260**	.455**	.497**							
p	.270**	.450**	.494**	.665**						
q	.345**	.543**	.486**	.567**	.666**					
r	.366**	.460**	.399**	.469**	.459**	.614**				
s	.254**	.445**	.385**	.520**	.597**	.557**	.451**			
t	.228**	.436**	.423**	.550**	.562**	.485**	.347**	.517**		
u	.269**	.536**	.476**	.519**	.502**	.483**	.340**	.492**	.631**	
v	.350**	.432**	.438**	.346**	.344**	.458**	.402**	.418**	.377**	.476**

* = p<.05; ** = p<.01

Factor Loadings for the Connectivity Items

Factors/Items	N	Factor 1
Connectivity		
d. I think of the natural world as a community to which I belong.	397	0.639
f. I feel a sense of oneness with nature.	395	0.666
a. I often feel disconnected from nature.	397	-0.447
b. Spending time outdoors is spiritual for me.	395	0.750
c. Being outdoors is only worthwhile when I can share it.	394	0.544
d. I belong to the Earth as it belongs to me.	391	0.759
e. Nature is better off when people leave it alone.	397	0.711
f. Caring about the environment is an important part of being Latino.	397	0.756
Eigen Value		3.563
Percent of Variance Explained		44.553
Cronbach's alpha		0.72
Extraction Method: Principal Components		
Rotation: Varimax		

Correlation Matrix for the Connectivity Items

	d	f	a	b	c	d	e
d							
f	.660**						
a	-.211**	-.192**					
b	.349**	.424**	-.217**				
c	.204**	.130*	-.408**	.261**			
d	.337**	.360**	-.253**	.629**	.338**		
e	.288**	.349**	-.257**	.457**	.344**	.455**	
f	.360**	.384**	-.164**	.499**	.393**	.529**	.549**

* = p<.05; ** = p<.01

Frequencies of Conceptual Variables Used in the Household Survey

Variable	N	Mean	SD	Skewness	Kurtosis	Min	Max
Environmental Behaviors							
Environmental Involvement*	392	-2.74	1.79	0.04	-1.77	-4.61	0.00
Household Environmental Behaviors	394	3.80	2.21	-0.19	-1.00	0.00	7.00
Local Environmental Behaviors	400	1.35	1.50	0.72	-0.97	0.00	4.00
Recreation Activities	459	6.77	6.27	0.60	-0.63	0.00	22.00
Recreation Location							
None	393	0.22	0.416	1.347	-0.186	0	1
Local	393	0.18	0.385	1.666	0.781	0	1
State	393	0.23	0.424	1.261	-0.413	0	1
Both	393	0.36	0.482	0.568	-1.686	0	1
Connectivity	376	2.1281	0.333	0.011	0.601	1.00	3.00

*Transformed

APPENDIX E: FACILITATED DISCUSSIONS CONSENT FORM AND INSTRUMENT

Facilitated Discussion Consent Form

Title of Project:	**Latino Use and Perceptions of Pennsylvania Natural Areas – Facilitated Discussion**
Principal Investigator:	Jason Gordon, Ph.D Candidate 301 Armsby Building University Park, PA 16802 814-360-5495 jsg246@psu.edu
Advisor:	Dr. A.E. Luloff, Professor of Rural Sociology 114 Armsby Building University Park, PA 16802 (814) 863-8643 aeluloff@psu.edu
Other Investigators:	Dr. J.C. Finley, Professor of Forest Resources

1. **Purpose of the Study:** This facilitated group discussion gathers community input to assess how the Latino population uses parks, forests, and other public lands and the ways natural resource managers accommodate the needs of Latino visitors. Findings will help improve outdoor recreation benefits and environmental policy for Pennsylvania's Latino population. Using a facilitated discussion format, we are speaking with groups of people who can provide important insights on how Latino residents use natural resources, and their needs, perceptions, and concerns about them. The study is funded by the Pennsylvania Department of Conservation and Natural Resources' Bureau of State Parks.

2. **Procedures to be followed:** As a group, you will be asked to address a series of questions about the importance of natural resources and areas to you and your community. We plan to make an audio recording of the discussion.

3. **Duration/Time:** The discussion will last between 60 and 90 minutes.

4. **Statement of Confidentiality:** Your participation in this research is confidential. All data from the group discussions will be stored and secured in 114 Armsby Building, University Park in password protected files accessible only by the Principal Investigators. In the event of a publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses. If you speak about the contents of the focus group outside the group, it is expected you will not tell others what individual participants said.

   Although we will record the discussion, we will not put your name on any digital recording or transcript. The only information on the audio recording or in our handwritten notes will be the date of the interview. The files will be destroyed in 2012.

5. **Right to Ask Questions:** Please contact Mr. Jason Gordon at (814) 360-5495 with questions or concerns about this study. Mr. Gordon speaks Spanish.

6. Snacks will be offered to participants during the session. The snacks are free to participants and will be paid for by the research project.

7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

You must be 18 years of age or older to consent to take part in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below.

You will be given a copy of this form for your records.

☐ I **give** permission to be **AUDIO** taped.

☐ I **do not give** permission to be **AUDIO** taped.

☐ I **do give** permission for portions of this interview to be directly quoted in publications/presentations.

☐ I **do not give** permission for portions of this interview to be directly quoted in publications/presentations.

_____ _____

Participant Signature Date

_____ _____

Person Obtaining Consent Date

Facilitated Discussion Instrument

Date _____Location_____Facility_____
Number of Participants _____(men)_____(women)_____(ages 18 to 23)

1. Do you take part in any activities in parks or natural areas? What are they? (probe: parks, forests, gardens, around the house) What makes doing these activities special? How much time do you spend in these activities?

2. Is there anything that keeps you from participating in these activities?

3. Are there any outdoor activities you would like to participate in, that you haven't tried yet? What are these activities? What keeps you from participating in them?

4. Where are some of your favorite places? Why? How far do you have to travel from your home to get there?

5. How would you feel if the benefits from the natural areas you listed were no longer accessible to you, whether due to development, restrictions on access, or some other reason?

6. When you think about the people in your community, do you see any differences between the way Latinos and nonlatinos think about nature and the environment?

    a. Should Latinos care about public natural areas such as parks and forests? Why or why not? If so, what can be done to encourage participation by Latinos in natural areas?

7. Have the ways you use and think about the environment and natural resources changed over your lifetime? If yes, how? (probe: Their kids)

8. What concerns and issues do you have for nature? (probe: global warming, wilderness, recycling, dumping). Are you aware of any local environmental problems?

    a. Who is/are responsible for these issues?
    b. Has this change over time?
    c. What does the future look like for this problem?

Filling out this questionnaire is voluntary and you may stop at any time. It is also anonymous, so please do not sign your name. You indicate your voluntary agreement to participate by completing and returning this questionnaire. This should take 2 minutes or less to complete. Concerns or questions should be addressed to the Principal Investigators Jason Gordon (814-360-5495) or Dr. A.E. Luloff (814-863-8643).

1. My age is:_____

2. I am (circle one): Male Female

3. Highest level of education completed:

__Less than high school __Two-year college graduate __ Graduate degree
__High school graduate __ Four-year college degree __ Professional degree
__Some college __Some graduate work __ Certified trade

4. Race (check all that apply)

__ White
__ Black
__ Hispanic origin (any race)
__ Latino
__ Other (Please specify) _____

5. What is your ancestry? _____

6. What is your occupation?_____

7. Where were you born? _____

8. How long have you lived in Pennsylvania? _____

9. How well do you read, speak, write, and understand English?

	Only Spanish, no English	**Poor**	**Well**	**Very well**	**Only English, no Spanish**
a. Read	1	2	3	4	5
b. Speak	1	2	3	4	5
c. Write	1	2	3	4	5
d. Understand	1	2	3	4	5

APPENDIX F: PARK INTERCEPT SURVEY CONSENT FORM AND INSTRUMENT

Park Intercept Survey Consent Form

Title of Project: **Latino Use and Perceptions of Pennsylvania Natural Areas – Park Intercept Survey**

Principal Investigator: Jason Gordon, Ph.D Candidate
301 Armsby Building
University Park, PA 16802
814-865-5461
jsg246@psu.edu

Other Investigators: Dr. A.E. Luloff, Professor of Rural Sociology
114 Armsby Building
University Park, PA 16802
(814) 863-8643
aeluloff@psu.edu

Dr. J.C. Finley, Professor of Forest Resources

1. **Purpose of the Study:** The purpose of this research is to help State Parks better serve Latino park visitors by knowing what activities they do, areas of the park they use, and how satisfied they are with the facilities/services provided.

2. **Procedures to be followed:** You will be asked to respond to 25 questions related to state and local recreation areas.

3. **Benefits:** You will receive a pencil and a brochure with information about Pennsylvania State Parks.

4. **Duration/Time:** This will take about 15 to 20 minutes of your time.

5. **Statement of Confidentiality:** Your participation in this research is confidential. The survey does not ask for any information that would identify who the responses belong to. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses. The information will be kept in 114 Armsby Building, University Park in password protected files accessible only by the principal investigators. The files will be destroyed in 2012.

6. **Right to Ask Questions:** Please contact Jason Gordon at (814) 865-5461 with questions or concerns about this study.

7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. You will not lose any benefits if you do not answer some questions or decide to stop the survey at any time.

You must be 18 years of age or older to take part in this research study.

Completion this survey implies that you have read the information in this form and consent to take part in the research. Please keep this form for your records or future reference.

Park Intercept Survey Instrument

All information you provide will be treated confidentially and will never be linked with your name.

Interviewer Initials: _____ Time, Date, & Weather_____

Reason for refusal: a. No time b. Not interested c. Other

A. Do you consider yourself of Hispanic or Latino/a background? a. Yes b. No
*(If **YES**, would you prefer to take the survey in English or Spanish; If **NO**, skip to Question 1a)*

B. What is the national background of you and/or your family? _____

C. How long have you lived in the USA? _____ (Indicate number of months/years)

D. How well do you read, speak, write, and understand English?

	Only Spanish, no English	**Poor**	**Well**	**Very well**	**Only English, no Spanish**	**Completely Bilingual**
a. Read	1	2	3	4	5	6
b. Speak	1	2	3	4	5	6
c. Write	1	2	3	4	5	6
d. Understand	1	2	3	4	5	6

*(specify):*_____

1a. During the past year have you visited any of the following public lands?

	Never Visited	**Approximate Number of Visits**
a. Beltzville State Park	1	_____
b. French Creek State Park	1	_____
c. Nockamixon State Park	1	_____
d. Marsh Creek State Park	1	_____
e. Delaware Water Gap National Recreation Area	1	_____
f. Promised Land State Park	1	_____
g. Tobyhanna State Park	1	_____
h. Lackawanna State Park	1	_____
i. Tuscarora State Park	1	_____
j. Nescopeck State Park	1	_____
k. Hickory Run State Park	1	_____
l. Locust Lake State Park	1	_____
m. Blue Marsh Lake Recreation Area	1	

1b. From the above list, please circle the letter that corresponds to the place most important to you.

2. In general, how satisfied are you with the natural amenities and programs/services offered by this park?

a. Very unsatisfied
b. Mostly unsatisfied
c. Neither satisfied nor unsatisfied
d. Mostly satisfied
e. Very satisfied

3. Overall, how would you rate this facility compared with other facilities you have frequented?

This facility is _____(worse than, the same as, or better than) others.

4. How important were the following factors in deciding to use this facility?

	Important	Neither Important nor Unimportant	Unimportant
a. Doing something with my family, friends	1	2	3
b. Getting out of the house to enjoy fresh air	1	2	3
c. Relaxing	1	2	3
d. Convenient location	1	2	3
e. Quality/reputation of facilities	1	2	3
f. Quality/reputation of programs	1	2	3
g. Amount of crowding	1	2	3
h. A chance to eat traditional food	1	2	3
i. Listening to good music	1	2	3
j. Playing in the pool	1	2	3
k. A place for my children to play	1	2	3
l. Getting exercise	1	2	3
m. Only facility available	1	2	3
n. Seeing animals in their natural habitat	1	2	3
o. Other (specify)_____	1	2	3

5a. Indicate where you have participated in any of the following outdoor activities during the past year (circle all that apply).

	State Parks	Local Parks		State Parks	Local Parks
a. Hunting	1	2	m. Relaxing/hanging out	1	2
b. Bicycling	1	2	n. Picnicking	1	2
c. Wildlife viewing	1	2	o. Sightseeing by car	1	2
d. Pick berries/other foods	1	2	p. Playing sports	1	2
e. Fishing	1	2	q. Walking	1	2
f. Swimming	1	2	r. Playing table games (e.g. dominos)	1	2
g. Day hiking	1	2	s. Beach use	1	2
h. Backpacking	1	2	t. Taking my kids to the playground	1	2
i. Vehicle camping	1	2	u. Listen to music	1	2
j. Attend nature programs	1	2	v. Meditating	1	2
k. Using 4X4 or ATV	1	2	w. Washing car	1	2
l. Collecting firewood	1	2	x. Other (specify):_____	1	2

5b. From the list above, please circle the letter of the activity most important to you.

6. During what seasons do you regularly visit state parks?

a. Spring b. Summer c. Winter d. Fall

7. How much do you think parks, forests, and other outdoor recreation facilities contribute to the economy?

a. Extremely b. Somewhat c. Not too much d. Not at all

8. How important is it for children to have access to outdoor recreation facilities and programs?

a. Extremely b. Somewhat c. Not too important d. Not at all

9a. Have you ever considered working in natural resource management in public parks? a. Yes b. No

9b. Please explain what prevented you from working in natural resource management?

_____

_____

10a. In your opinion, how important is each of the following park facility improvements?

	Unimportant	Neither Important nor Unimportant	Important
a. Add more sport/athletic fields (e.g., soccer, baseball)	1	2	3
b. Refurbish older existing park and recreation facilities	1	2	3
c. Improve water quality of lakes and streams	1	2	3
d. Improve parking	1	2	3
e. Improve food concession facilities	1	2	3
f. Improve equipment rental concessions (e.g., canoes, bikes)	1	2	3
g. Develop more walking trails	1	2	3
h. Develop more biking trails	1	2	3
i. Develop more nature programs (e.g., wildlife, conservation)	1	2	3
j. Add bilingual signage in English and Spanish	1	2	3
k. Other (specify)_____	1	2	3

10b. From the list above, please circle the letter of the improvement most important to you.

11. How important is it for government to financially support outdoor recreation facilities and programs?

a. Extremely b. Somewhat c. Not too important d. Not at all

12a. Would you approve of a small increase in park user fees to support outdoor recreation facilities and programs?

a. Yes b. No c. Don't know

12b. About how much more would you pay? _____

13. If you never or seldom use State Parks, what are your reasons?

	Unimportant	Neither Important nor Unimportant	Important
a. Lack of money	1	2	3
b. Lack of time	1	2	3
c. Facilities are not convenient	1	2	3
d. Facilities aren't safe	1	2	3
e. Don't know what is available	1	2	3
f. Can't find anyone to go with	1	2	3
g. Too tired after work	1	2	3
h. Facilities are overcrowded	1	2	3
i. Uncomfortable among other visitors	1	2	3
j. Nothing for me to do	1	2	3
k. Too far away	1	2	3
l. No transportation to get there	1	2	3
m. Admission fees are too high	1	2	3
n. Facilities are poorly maintained	1	2	3
o. Other (specify)_____	1	2	3

14a. Do you regularly take any individual actions to conserve the environment? a. Yes b. No

14b. If **YES**, what have you done?

_____

_____

14c. If **NO**, please explain what prevents you from taking regular actions.

_____

_____

15. Do you have additional comments or suggestions regarding recreation facilities in Pennsylvania?

_____

_____

_____

PARTICIPANT BACKGROUND INFORMATION

Finally we need to ask you a few questions about you and your household. As with all the information you provided in this survey, your answers to these questions will remain strictly confidential.

16. Gender (do not ask) a. Male b. Female

17. In what year were you born? _____ year

18. What is your ZIP code? ___ ___ ___ ___ ___

19. What was the highest grade of school you completed? *Please CIRCLE one:*

a. None	c. Some high school	e. Some college	g. Completed college
b. Grade school	d. Completed high school or GED	f. Technical school beyond high school/Associates Degree	h. Graduate/professional school

20. What is your current marital status?

a. Married b. Married, spouse absent c. Separated/Divorced/Widowed d. Never married/Single

21. How many people live in your household who are:

a. 18 yrs old or younger?_____(number) b. 19-59 yrs old?_____ (number) c. 60 and older?_____ (number)

(Do not ask Latino participants) 22. Which of the following categories best describes your race and/or ethnic background?
(circle all that apply)

a. White	d. Native Hawaiian or Other Pacific Islander	g. Refused
b. Black/African American	e. Asian	
c. American Indian or Alaskan Native	f. Other (specify) _____	

23. What is your current employment status? *Please CIRCLE one:*

a. Full-time ____ hours/week
b. Part-time ____ hours/week
c. Retired or disabled

d. Student
e. Homemaker
f. Non-employed (looking for work or laid off)

24. Which of following are current sources of income in your household? Specify ALL that apply*:*

a. Wages and/or salary
b. Income from business/investments
c. Income from rental properties
d. Disability benefits
e. Social Security payments
f. Retirement pension payments
g. Unemployment
h. Food stamps
i. Public assistance/welfare
j. Other (specify)_____

25. What was the total income of your household (before taxes) last year? *Please CIRCLE one:*

a. Less than $15,000
b. $15,000 to $24,999
c. $25,000 to $34,999
d. $35,000 to $49,999
e. $50,000 to $74,999
f. $75,000 and above

That is the end of the survey. Here is some information about outdoor recreation and camping opportunities for Pennsylvania State Parks. ***Thank you very much for your participation in this study!***

APPENDIX G: INTERCEPT SURVEY FACTOR ANALYSIS, SCALES, AND DESCRIPTIVES

Factor Loadings for the Recreation Motivations Items

Factors/Items	N	Factor 1	Factor 2
Relaxation			
a. Doing something with my family, friends	716	0.023	0.727
b. Getting out of the house to enjoy fresh air	716	0.016	0.750
c. Relaxing	715	0.042	0.809
Facilities			
d. Convenient location	716	0.267	-0.097
e. Quality/reputation of facilities	715	0.618	-0.049
f. Quality/reputation of programs	715	0.691	-0.033
g. Amount of crowding	715	0.624	-0.118
h. A chance to eat traditional food	715	0.598	0.186
i. Listening to good music	715	0.593	0.137
j. Playing in the pool	716	0.491	0.106
k. A place for my children to play	715	0.333	0.030
l. Getting exercise	716	0.457	0.142
m. Only facility available	715	0.377	-0.170
n. Seeing animals in their natural habitat	714	0.557	0.058
Eigen Value		3.194	1.784
Percent of Variance Explained		22.789	35.505
Cronbach's alpha		0.73	0.68
Extraction Method: Principal Components			
Rotation: Oblique			

Correlation Matrix for the Recreation Motivation Items

	a	B	c	d	e	f	g	h	i	j	k	l	m
a													
b	.340**												
c	.448**	.471**											
d	.048	.021	.052										
e	.081*	.004	.036	.092*									
f	.034	.049	.082*	.070	.631**								
g	.013	.035	.028	.275**	.209**	.304**							
h	.123**	.132**	.144**	-.063	.246**	.306**	.293**						
i	.063	.076*	.133**	-.053	.229**	.314**	.252**	.545**					
j	.089*	.078*	.112**	.068	.235**	.199**	.216**	.225**	.280**				
k	.132**	.041	.015	.144**	.149**	.135**	.206**	.149**	-.018	.249**			
l	.092*	.092*	.128**	.117**	.149**	.202**	.194**	.180**	.279**	.247**	.117**		
m	-.008	-.005	-.013	.340**	.011	.056	.311**	.103**	.087*	.129**	.102**	.095*	
n	.039	.121**	.088*	.058	.247**	.327**	.206**	.310**	.283**	.129**	.093*	.263**	.210**

* = p<0.05; ** = p<0.01

Factor Loadings for the Recreation Constraints Items

Factors/Items	N	Factor 1
Constraints		
a. No money	632	0.707
b. No time	634	0.542
c. Not convenient	633	0.740
d. Not safe	634	0.600
e. No info	634	0.753
f. No friends	634	0.738
g. Tired	634	0.728
h. Overcrowded	633	0.751
i. Discomfort	634	0.737
j. Nothing to do	633	0.741
k. Far away	634	0.737
l.No transportation	634	0.802
m. High fees	634	0.772
n. Poor maintenance	634	0.591
Eigen Value		7.130
Percent of Variance Explained		50.929
Cronbach's alpha		0.93
Extraction Method: Principal Components		
Rotation: Oblique		

Correlation Matrix for the Recreation Motivation Items

	a	b	c	d	e	f	g	h	i	j	k	l	m
a													
b	.611**												
c	.560**	.452**											
d	.471**	.375**	.456**										
e	.451**	.348**	.605**	.455**									
f	.417**	.297**	.465**	.348**	.570**								
g	.484**	.429**	.492**	.413**	.533**	.500**							
h	.420**	.258**	.453**	.331**	.501**	.574**	.551**						
i	.449**	.295**	.413**	.261**	.421**	.608**	.478**	.741**					
j	.420**	.261**	.428**	.306**	.483**	.607**	.467**	.656**	.782**				
k	.426**	.314**	.545**	.292**	.541**	.502**	.505**	.477**	.484**	.532**			
l	.471**	.338**	.564**	.375**	.572**	.576**	.498**	.545**	.562**	.568**	.703**		
m	.548**	.355**	.502**	.404**	.569**	.487**	.486**	.516**	.501**	.480**	.591**	.683**	
n	.401**	.263**	.437**	.689**	.400**	.312**	.423**	.355**	.229**	.280**	.334**	.417**	.516**

** = $p<0.01$

Factor Loadings for the Recreation Activities Items

Factors/Items	Factor 1	Factor 2
Appreciative to Slight		
Playing sports	0.438	0.267
Playing table games	0.412	0.23
Listen to music	0.534	0.113
Beach use	0.578	0.104
Swimming	0.602	0.051
Walking	0.598	-0.043
Taking my kids to the playground	0.546	-0.106
Picnicking	0.745	-0.111
Relaxing/hanging out	0.745	-0.188
Moderate to Intensive		
Vehicle camping	-0.088	0.726
Using 4X4 or ATV	-0.089	0.717
Backpacking	-0.079	0.693
Hunting	-0.132	0.618
Attend nature programs	0.104	0.594
Collecting firewood	0.014	0.59
Pick berries/other foods	0.105	0.499
Day hiking	0.144	0.464
Fishing	0.130	0.422
Bicycling	0.242	0.400
N	716	716
Eigen Value	2.480	5.208
Percent of Variance Explained	10.783	22.644
Cronbach's alpha	0.77	0.77
Extraction Method: Principal Components		
Rotation: Oblique		

Correlation Matrix for the Recreation Behaviors Items

	Hunting	Bicycling	Fishing	Swimming	Day hiking	Backpacking	Vehicle camping	Nature programs
Hunting								
Bicycling	.194**							
Fishing	.324**	.211**						
Swimming	.101**	.272**	.241**					
Day hiking	.183**	.295**	.242**	.155**				
Backpacking	.278**	.252**	.229**	.116**	.362**			
Vehicle camping	.323**	.206**	.151**	.117**	.267**	.566**		
Nature programs	.223**	.261**	.180**	.168**	.267**	.357**	.376**	
ATV	.398**	.207**	.187**	.105**	.212**	.390**	.521**	.405**
Firewood	.305**	.219**	.392**	.157**	.249**	.269**	.312**	.394**
Relax	-.032	.136**	.138**	.350**	.097**	.014	.020	.085*
Picnic	.009	.135**	.125**	.351**	.070	.042	.070	.159**
Sports	.141**	.373**	.251**	.289**	.234**	.204**	.157**	.184**
Walking	.025	.228**	.068	.230**	.222**	.071	.074*	.116**
Games	.086*	.156**	.216**	.195**	.163**	.160**	.170**	.180**
Beach use	.038	.193**	.081*	.365**	.116**	.167**	.197**	.258**
Playground	.021	.028	.075*	.241**	.163**	-.018	.032	.074*
Listen to music	.121**	.142**	.160**	.345**	.149**	.124**	.126**	.188**

* = $p<0.05$; ** = $p<0.01$

Correlation Matrix for the Recreation Behaviors Items (Cont.)

	ATV	Firewood	Relax	Picnic	Sports	Walking	Games	Beach	Playground
Hunting									
Bicycling									
Fishing									
Swimming									
Day hiking									
Backpacking									
Vehicle camping									
Nature programs									
ATV									
Firewood	.344**								
Relax	.031	.065							
Picnic	.104**	.105**	.482**						
Sports	.174**	.229**	.224**	.282**					
Walking	.056	.045	.454**	.283**	.241**				
Games	.159**	.205**	.129**	.270**	.340**	.140**			
Beach	.171**	.128**	.231**	.431**	.229**	.230**	.344**		
Playground	.018	.044	.334**	.308**	.092*	.227**	.181**	.213**	
Music	.133**	.175**	.277**	.376**	.354**	.210**	.384**	.325**	.125**

* = $p<0.05$; ** = $p<0.01$

Frequencies of Conceptual Variables Used in the Intercept Survey

	N	Mean	SD	Skewness	Kurtosis	Minimum	Maximum
Environmental Behaviors	716	0.556	0.497	-0.225	-1.955	0	1
Constraints	634	2.104	0.640	-0.095	-0.582	1	3
Recreation Motivations							
Motivations-Relax	716	0.984	0.099	-7.117	55.663	0	1
Motivations-Facilities	716	0.646	0.245	-0.270	-0.853	0	1
Recreation Behaviors							
Appreciative to Slight	716	16.018	6.437	0.019	-0.898	0	27
Moderate to Intensive	716	4.454	5.056	1.895	4.512	0	30

Abbreviated Vitae

Jason S. Gordon

EDUCATION

Ph.D., The Pennsylvania State University: Rural Sociology and Human Dimensions of Natural Resources; Minor Latina and Latino Studies, May, 2010.

M.S., The Pennsylvania State University, Rural Sociology, 2007

B.S., University of Georgia Warnell School of Forest Resources

RESEARCH

- Research Assistant, Dept. of Agricultural Economics and Rural Sociology, Penn State, 2005 – 2009
  - Latino Perceptions and Uses of Pennsylvania Natural Areas (Co-PI with A.E. Luloff and J.C. Finley)
  - Community Perceptions of Wildfire in Alaska (C. Flint and A.E. Luloff)
  - Pennsylvania Highlands Conservation Assessment (J.C. Finley and A.E. Luloff)
  - PA Private Forest Landowners (J.C. Finley and A.E. Luloff)
  - IUCN Protected Areas (with D. Matarrita, C. Raboanarielina, A.E Luloff)
  - 2009 PA State Outdoor Recreation Plan (A. Greafe)
  - CEAP national watershed assessment project (A.E. Luloff)
- Research Assistant, Inter-American Inst. for Cooperation on Agriculture, El Salvador, 2003-2005
- Research Assistant, University of Georgia (P.I. Warren A. Flick), 1999-2000

PUBLICATIONS

- Gordon, J.S., R.C. Stedman , A.E. Luloff. "West Virginia Wildland Fire as Latent Social Discontent." *Society and Natural Resources*.
- Gordon, J.S., R.C. Stedman, D. Matarrita-Cascante, and A.E. Luloff. "Fire Perception in Rapid Growth Communities." *Rural Sociology*.

GRANTS AND AWARDS

- Rural Sociological Society Dissertation Award, 2008
- College of Agricultural Sciences Dissertation Grant, 2008
- Proposed and received two grants from Department of Conservation and Natural Resources Bureau of States Parks (with A.E. Luloff and J.C. Finley; Latino Uses and Perceptions of Natural Resources in PA)
- Gamma Sigma Delta Honor Society for Agriculture, 2007
- College of Agricultural Travel Award, 2006, 2009
- Outstanding Paper Award, "Community response to forest fire risk." Natural Resources Research Group, Rural Sociological Society, 2006

TEACHING EXPERIENCE

- Graduate School Teaching Certificate in College Teaching
- Teaching Assistant: RS11 ('08), "Intro. Rural Sociology ('07);" RS 522, "Data Anal. in Rural Sociology"

OTHER WORK EXPERIENCE

- Spanish Language Paraprofessional, Sedalia Park School, Marietta, GA, 2005
- English, Math, Science Instructor, Centro Cult. Salvadoreño, El Salvador, 2004 – 2005
- Peace Corps Volunteer, Peace Corps, El Salvador, 2000 – 2003
- Forestry Technician, CEBSE, Dominican Republic, 2000

PROFESSIONAL MEMBERSHIP

- International Association for Society and Natural Resources
- Rural Sociological Society
- Society for American Foresters
- Latin American Studies Association